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ABSTRACT

The four 1984 numbers of the journal contain articles on the following topics: reading and visual imagery; script preparation for accelerative learning and teaching; guided relaxation and baroque music's effects on student test performance; imagery in the creative process; suggestopedia in English as a second language (ESL) instruction; image-streaming and intelligence, performance, and proficiency; invitational education for the gifted; superlearning techniques and ESL; cognitive style in audiolingual and suggestopedic language instruction; mental speeded practice in learning words; scientific suggestopedic research; music and human behavior; ego-state reframing and behavior problems; large-class engineering education; low-budget accelerative elementary mathematics; the Lozanov method; the Ericksonian approach to suggestive linkage; suggestopedic freshman German; teaching French in China; a learning system for disruptive youth; using the means of suggestion to harmonize with its barriers; suggestopedic second language learning for Hispanic adults; classroom management techniques; suggestopedia in Finland; handwriting improvement for learning disabled and emotionally disturbed children; spontaneous visual imaging; communicative foreign language teaching; and registration of speech peculiarities during language instruction. (MSE)

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Volume 9, Number 1 Spring, 1984

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Reading and Visual Imagery*

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Abstract. This study examined the relationship between individuals' ability to produce and manipulate visual images and their reading comprehension ability. The imaging ability of 104 high school students was tested by Form B of the Survey of Mental Imagery (SMI), visual modality subtest for both vividness and controllability. Scores for Reading Comprehension and Reading Vocabulary subtests of the SRA Achievement Series for the students were correlated with the imagery scores of the SMI. Specifically, the reading subtests with significant correlations to image vividness were: grasping details, drawing conclusions, and literal and nonliteral meanings, and also, summarizing and understanding the author. Correlations of the controllability subscores with the reading tests were generally nonsignificant with the exception of literal meanings and nonliteral meanings. The results suggested that the relationship between an individual's reading and imaging ability is a subject worthy of more detailed study, especially an examination of age and sex differences and with imagery modalities other than visual.

Introduction

The importance of comprehension as a component of reading ability is widely accepted in academic circles. There is agreement that, without determining meaning, reading is only verbalism, empty and meaningless expressions which emphasize symbols instead of the content or ideas they represent (Smith & Dechant, 1961; Robeck & Wilson, 1974).

The literature supports the assumption that reading comprehension is a more complex and, therefore, more difficult skill than simple word recognition because it requires more complex thought processes and associations (Davis, 1968; Trabrasso, 1972; Bransford & Johnson, 1973). Symbol recognition is, however, an important and necessary first component of comprehension (Smith & Dechant, 1961; Robeck & Wilson, 1974). Models of reading comprehension show that a proficiency in what is termed "comprehension" really involves a variety of learned skills (Robeck & Wilson, 1974) including perception of the concepts the words represent (Gibson & Levin, 1975).

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*Portions of this paper were presented at the Annual Meeting of the American Educational Research Association, New York, March, 1982.

In an attempt to identify the most important measurable skills of comprehension among mature readers, Davis (1944) used a factor-analytic analytic technique to isolate the unique elements from over 100 skill areas which he saw as contributing to reading comprehension. The five skills Davis identified were: remembering word meanings, drawing inferences from the content, following the structure of a passage, recognizing the writer's purpose, tone, attitude and mood, and finding answers to questions asked explicitly or in paraphrase (Davis, 1968). He found these skills to be independent of one another but each as being related to getting the main idea of a passage or "weaving ideas together." Davis saw this as a step toward drawing inferences or what he termed "reasoning in reading" (Davis, 1968). Further, Davis (1968) stated:

> Underlying all five skills are two general mental abilities; the ability to remember word meanings, and the ability to reason with verbal concepts. Basically, neither of these general abilities lends itself to specific teaching; they are probably part of a pupil's natural endowment. (p. 542)

This statement suggests that at least part of the comprehension process is a kind of creative act, that it involves relating input information to general knowledge so that the final product includes more information than was directly expressed in the input. Robeck and Wilson (1974) state that all reading has an element of creativity. One brings part of oneself through one's background to reading, and some small part of what one gleans is therefore totally unique.

Carroll (1972) identified comprehension with a capacity for acquiring new understandings and integrating them in some valid way with knowledge already acquired.

This synthesis of old information to develop new and different products or relationships was identified by Gowan (1978) with creative behavior. Gowan saw right hemisphere imagery as the vehicle through which incubation, the second of four stages of the creative process, produces creative outcomes or products.

Gowan (1978) defined the cognitive activity of the left hemisphere as "the handling of incoming perceptual information and its processing into thought and decision via language and the continual internal discourse which accompanies consciousness" (p. 24). Implied is the assumption that right-hemisphere activity could involve the handling of incoming peceptual information and its processing into thought and decision via imagery and the continual stream of internal pictures which apparently also accompany consciousness. This process of imaging is thought to be universal, although preferences for specific modes differ among individuals (Horowitz, 1970). The mode most preferred seems to be visual (Horowitz, 1970), but the ability to produce and control imagery and the clarity of the image seem to differ among individuals (Horowitz, 1980).

> ...all those quasi-sensory or quasi-perceptual experiences of which we are self-consciously aware and which exist for us in the absence of those stimulus conditions that are known to produce their genuine sensory or perceptual counterparts and which may be expected to have different consequences from their sensory or perceptual counterparts. (pp. 2-3)

This broad definition is generally accepted (Gowan, 1978). However, it is Horowitz's description of a "thought" image that is most useful. Thought images are described as ordinary ingredients of mental life, with weak to clear vividness. The content of these images ranges from pure fantasy to use in solving logical problems, as in chess or math. Literature often evokes the thought image. These images are similar to memory and imagination images, or are combinations of the two. Memory images are described by Horowitz as reconstructions or resurrections of past perceptions which can appear from dim to eidetic (almost photographic). The imagination image contains attributes that have never been perceived with that particular organization. The components of the imagination image are partially derived from images of past perceptions, and recombined to form new concepts or fantasies. These definitions of imagination and memory image correspond to those of Richardson (1969).

Recent work by Piaget and Inhelder (1973) gives a slightly different but equally important place to imagery in cognition. Piaget and Inhelder described the image as an internal symbol that represents real objects after considerable schema-level development. Importantly, because the image is a personal construction, it is not bound by the properties of real objects, even in the adult. Because the image is only a symbol, it can be used in operational representations such as the solution of a problem, in the reconstruction of past events, in recall of all sorts of objects, or in fantasies, dreams, play or artistic activities (Piaget & Inhelder, 1973).

Both models imply that comprehension skills, especially in light of the two abilities defined by Davis (1968), could be enhanced by imagery ability. The first skill, the ability to remember word meanings, has been shown to be likened to imagery ability. Visual imagery has long been used as a mnemonic, a memory device to aid learning and remembering something (Hunter, 1977).

Miller, Galander and Pribram (1960) hypothesized that mnemonic devices served as highly productive and cohesive plans which serve to organize data. Both Paivio and Bugelski confirmed and extended Miller's idea. Paivio (1966) discovered that nouns served as "conceptual pegs" in paired associate learning. He suggested that this might be due to the image-arousing ability of nouns (Paivio, 1971b), and the spatial organization of imagery which would allow for the combination of more than one item into a single, easily stored image.

Bugelski took this idea one step further. He stated that all words are basically abstract, but all words have concrete, if personal, referents. Further, he proposed the image functions in language by providing a concrete reference, although personal, for even abstract terms (Bugelski, 1971).

Most empirical studies involving imagery and its relationship to memory, e.g., Davis' (1968) first ability related to comprehension skill, have employed nonverbal tasks. Common have been pattern reconstruction tasks where the stimuli are patterns made of geometric forms and the subject is required to reconstruct the stimulus pattern (Sheehan, 1967) and recall or replication of a picture (Marks, 1972). These kinds of studies suggest that, for the most part, a positive relationship exists between imagery ability and memory (Ernst, 1977). At first glance and theory to the contrary, empirical evidence seems to indicate either no relationship or a negative one between imagery and memory for verbal material (Ernst, 1977). A further investigation, however, shows that this negative relationship is somewhat restricted to memory tasks involving single words. Different conclusions can be drawn when retrieval of information from sentences or prose passages is required. It has been suggested that a meaningful context encourages image arousal at least in high imagers. It has also been suggested that meaningful context is helpful in comprehension. Freedle (1972) indicated that one important aspect of following the structure of a spoken or written passage is knowledge of the topic it covers. He indicated that any device which reduces the reader's uncertainty about the topic increases the reader's probability of understanding.

It has been shown that words of high-imagery content are better recalled than words of low-imagery content (Hiscock, 1976). In a connected discourse, it appears that imagery plays a role in memory for theme, or main idea (Yuille & Paivio, 1969). More importantly, in terms of instruction, imagery has been related to memory when the demand for recall is unexpected (Sheehan, 1972), and in improving memory for recall of verbal material (McKellar et al., 1972).

Support in the literature is also found linking the second ability identified by Davis, "reasoning in reading," with imagery. In general, the logical manipulation of ideas (reasoning) is identified with functions of the left hemisphere of the brain (Forisha, 1978). The word "logic" itself is identified with a sequential, step-by-step method of problem solving. It has been shown that manipulation of information can be achieved by spatial thinking as well as sequential thinking.

Creativity studies have tied imagery and "weaving ideas together" (Davis, 1956) in the production of original verbal images. Solving syllogisms (Huttenlocher, 1968), which involves the logical manipulation of verbal material and "drawing inferences," has also been related to imagery use. Imagery has been shown to play a role in other areas which require problem-solving techniques, such as chess (Chase & Simon, 1973) and mathematics (Hayes, 1973), and improvement in a physical skill (Marks, 1972). A review of the literature shows a relationship has been indicated between imagery and both "abilities" which Davis (198) suggests are the foundation for reading comprehension skills.

The present study was designed to provide information regarding the question: What is the relationship between mental imagery and reading?

Method

Subjects

The subjects (Ss) (n=104) were randomly selected junior class students from a high school in southeastern Wyoming (males=51, females=53). This represents a 25-percent random sample of a class of 416. The Ss ages ranged from 16 to 18, with the median age 17.

Instruments

Reading comprehension was measured by two tests and their subtests of the SRA Achievement Series, Level H, Form 2 (SRA, 1978). The Reading Vocabulary test included the subtests for both literal and nonliteral meanings. Scores for literal meanings were assessed by selecting the word that identifies, or best describes, an illustration, selecting the word with the same meaning as one presented in a sentence, selecting the literal definition of a word as it appears in a neutral sentence, or selecting the definition opposite to that of a word presented in a sentence. Nonliteral comprehension skills were described as selecting words with nearly the same meaning, choosing the phrase that means the same as a given nonliteral expression, or the selection of a word or phrase that best describes an idiom or a phrase.

The reading comprehension tests included the following subtests:

a. grasping details, which included selecting the detail that is stated in a written passage,
b. summarizing, which involves the selection of a statement that best summarizes a written passage,
c. perceiving relationships, which includes selecting the statement that expresses the relationship among events in a written passage, or the relationship of certain elements in a passage,
d. drawing conclusions, which involves selecting the statement that expresses a conclusion based on the material in the passage, and
e. understanding the author's purpose or opinion, and examples of style including the meaning of figurative language employed as well as distinguishing between fact and opinion, and comprehending the author's viewpoint.

Imaging ability in the visual modality was measured by the Survey of Mental Imagery (SMI) (Switras, 1979). The SMI is a self-report measurement device which consists of two untimed pencil and paper parallel tests. The Ss in this study used only Form B since there was no treatment involved and the data suggested no difference between A and B. There are 86 items per test form, assessing imagery in seven modalities (visual, auditory, olfactory, gustatory, tactile, somesthetic, kinesthetic). Only the 16 items that comprise the visual modality subtest were used in the present study. Both vividness and controllability are measured for each item, and individual scores for both vividness and controllability, as well as a total imagery score, can be obtained.

Scoring required simple addition. Controllability was measured on an item scale of 1-3, and vividness on a scale of 1-5. Controllability and vividness scores are the sum of all item scores within each subtest. The controllability variable is assumed to exist whenever vividness is measured, and is a precondition to vividness.

Indications were that the Survey of Mental Imagery is a reliable instrument for the measurement of controllability and vividness of mental imagery in the visual modality. Further evidence of reliability is provided by Hull and Render (1982) for Form B in the form of split-half reliability coefficients (total controllability .98, total vividness .99, grand total .99). Due to the sample size, ease of administration and scoring were considerations in the selection of this measure. More importantly, however, it was possible to assess both vividness and controllability simultaneously with this measure.

Procedure

In accordance with the purpose of the study, a correlational design was chosen. A class list was obtained (n=416). A sample was drawn, using a random numbers table and the class list (n=125). Administration of the Survey of Mental Imagery (SMI), Form B, Visual Modality, took place in a regular classroom setting, supervised by the Ss' English teacher on June 1, 1981. Written permission was obtained for each student prior to the administration of the SMI. Unusable or incomplete questionnaires, or nonparticipation reduced the sample by 15 (n=110). Permission was obtained from Laramie County School District I to use the Ss' SRA Achievement Series score. This test was administered to Ss on March 31 and April 1, 1981.

Of the total Achievement Series, five reading comprehension subtest scores and a total score, and two reading vocabulary subtest scores and a total score were available for each subject. Six Ss had no SRA scores (n=104). Responses for both the Survey of Mental Imagery and the SRA Achievement Series were manually coded, and scores subjected to computer analysis. Data were analyzed through the Statistical Package for the Social Sciences (SPSS) and programs used were CONDESCRIPTIVE for descriptive statistics and PEARSON CORR for correlational analysis (Beadle, Hull & Nie, 1979).

Results

The question to be explored was: Is there a relationship between reading comprehension and mental imagery in the visual modality? The method used to explore this question was correlation analysis. Prior to performing this analysis, the sample characteristics of both variables were examined. The sample means and standard deviations for reading comprehension, as defined by the tests and subtests of the SRA Achievement Series, are presented in Table 1. The statistics were calculated from Ss' raw scores on each subtest. Also shown in Table 1 are the number of questions in each subtest. Total reading skill is the sum of all subtest scores.

Table 1

Means and Standard Deviations of SRA Raw Scores (n=104)

Variable	Mean	S.D.	Number of Questions
Grasping details	9.25	2.95	13
Summarizing	4.61	1.43	6
Perceiving relationships	8.10	2.18	11
Drawing conclusions	9.95	2.21	13
Understanding the author	5.39	1.46	7
TOTAL READING COMPREHENSION	37.29	8.55	50
Literal meanings	27.03	6.34	35
Nonliteral meanings	3.96	1.16	5
TOTAL READING VOCABULARY	30.99	7.20	40
TOTAL READING	36.28	14.84	90

Correlations between reading comprehension subtest scores and those of the SMI are shown in Table 2. Significant correlations were found between imagery controllability and:

a. total reading score ($p<.05$)
b. total reading vocabulary score ($p<.01$)
c. vocabulary subscore, literal meanings ($p<.01$)
d. vocabulary subscore, nonliteral meanings ($p<.05$)

Table 2

Pearson Product Moment Correlations Between SRA Reading Scores and SMI Scores (n=104)

Reading Subscales	Control of Imagery	Vividness of Imagery	Total Imagery
Grasping details	.16	.28**	.26**
Summarizing	.13	.19*	.18*
Perceiving relationships	.09	.15	.14
Drawing conclusions	.16	.25**	.23**
Understanding the author	.07	.17*	.15
TOTAL READING COMPREHENSION	.15	.26**	.24**
Literal meanings	.25**	.35**	.33**
Nonliteral meanings	.18*	.27**	.25**
TOTAL READING VOCABULARY	.25**	.35**	.33**
TOTAL READING	.21*	.32**	.30**

*p<.05; **p<.01

Correlations between visual imagery controllability and the other reading comprehension subtests were nonsignificant. Imagery vividness was significantly correlated with all reading comprehension tests and subtests except for the reading comprehension subtest, perceiving relationships.

Of greater significance ($p < .01$), in order of the strength of correlation, were vividness of imagery and:

a. total vocabulary (.35)
b. vocabulary subtest, literal meanings (.35)
c. total reading score (.32)
d. reading comprehension subtest, grasping details (.28)
e. vocabulary subtest, nonliteral meanings (.27)
f. total reading comprehension (.26)
g. reading comprehension subtest, drawing conclusions (.25)

To conclude, a significant correlation was found between Total Reading Comprehension and Total Visual Imagery scores ($r = .24$, $p < .01$). The strongest correlation between subtests occurred between imagery vividness and vocabulary for literal meanings ($r = .35$, $p < .01$). Significant correlations ($p < .05$) between the Reading Vocabulary subtests and total, and both visual imagery controllability and vividness. Significant correlations ($p < .05$) occurred between the Reading Vocabulary subtests and total score and imagery were found in all cases except for the subtest perceiving relationships, which was not significantly related to imagery either for controllability or vividness.

Discussion and Conclusions

The results presented in Table 2 are consistent with the theoretical propositions discussed in the preceding literature review. The total SRA Reading Vocabulary score corresponds to the first underlying reading comprehension ability described by Davis, remembering word meanings. The vocabulary score was significantly related to the visual imagery measurements for both controllability and vividness ($p < .01$). The Total SRA Reading Comprehension score, analogous to the inference skills of "reasoning in reading" identified by Davis as the second reading comprehension ability, was also significantly related to both visual imagery vividness and total imagery ($p < .01$).

The strongest correlations were between visual imagery and vocabulary scores. Both imagery variables of vividness and controllability were significantly related only with the Total Reading Score and the Reading Vocabulary total score and subscores. The highest correlations for both vividness ($r = .35$) and controllability ($r = .25$) occurred with the subtest for literal meanings ($p < .01$). Scores for this subtest depend on skill in selecting a word that has the same meaning as one presented or the selection of a word that best describes a given illustration. The reason for these results could be that the only processes involved are the production of an image for the stimulus word, making a comparison between the stimulus and the images produced for the response selections, and choosing the response item which appears to be most like the stimulus. In the case of the illustration, only images for the response items would have to be generated and then a comparison made with the picture already presented. The unconscious use of mnemonic memory techniques may be responsible for the images formed for the stimulus and response items.

The nonliteral meaning subscore was also significantly related to both vividness ($r=.27$, $p<.01$) and controllability ($r=.18$, $p<.05$). Possibly, there are more tasks involved in determining nonliteral meanings than literal meanings. In nonliteral meaning, the image produced by the stimulus word might be less directly related to the correct response image. A judgment would have to be made about the degree of the relationship between the response images produced first by the expressions and idioms presented in the questions, then by the selection of choices for response.

The SRA Reading Comprehension subscores which were most significantly related to imagery vividness were grasping details and drawing conclusions ($p<.01$). Grasping details, like determining literal word meanings, would require no manipulation of information gleaned from the image produced. Only simple recall and review of the image evoked by the stimulus would be involved. Although drawing conclusions is usually viewed as being the outcome of a sequential thought process, a conclusion may also be reached as the result of spatial problem solving, as shown by Hiscock (1976) in solving syllogisms.

Correlations were less strong but still significant between visual imagery vividness and the Reading Comprehension subscores for summarizing and understanding the author ($p<.05$). Summarizing is also generally thought of as a sequential process, but mnemonic memory techniques could be an alternative method for recalling the main ideas of a passage by first compacting related information into single images using a mnemonic "hook" and recalling the sequence of these images using the "loci" or "mental walk" technique. Understanding the author requires the identification of style, including deciphering figurative language, distinguishing between fact and opinion, and comprehending the author's viewpoint. All of these elements might involve some degree of comparing the image produced by the response sets to that evoked by the stimulus. Understanding the author also involves "weaving ideas together," which is linked to both comprehension, as defined by Davis

(1956), and creative thinking (Khatena, 1973a), the latter showing strong associations with the use of imagery (Khatena, 1975).

The results imply that the more manipulation of information a comprehension task requires, the lower the correlation with imagery becomes. This suggests that the simpler the task, the more efficient imagery use becomes.

The correlations between the imagery controllability variable and all the reading comprehension scores were nonsignificant. There are several possible explanations for this:

1. It is possible that a predisposition to image was established by the instructions of the SMI. If imagery ability is to some degree universal, then instructions to image might produce results even in individuals who normally image little or not at all.
2. The ability of the measurement device to discriminate between high and low imagers on the controllability dimension was further impeded by the response scale. (Subjects' choices were: no, unsure, yes.) Although this is usual for imagery controllability tests (White, Sheehan & Ashton, 1977), a different scale with more choices may be able to define individual differences more accurately.
3. Questions about what is actually being measured and called controllability must also be raised. Although the SMI correlates well with Gordon's well-known controllability measure, this only means that both tests measure the same thing, not necessary controllability.
4. To some extent, because of the self-report nature of the measurement device, the possibility of influence by response sets must be considered. It has been pointed out that test scores may simply indicate differences between subjects in their tendency to rank themselves high in imagery (White, Ashton & Brown, 1977). Given the age of the sample, it is not unreasonable to assume the preceeding-- that the Ss may have adopted a response set. Another possible response set is that of social desirability, or the set to present oneself in a favorable light by responding according to an impression of what is expected. A recent review (White, Sheehan & Ashton, 1977) concluded that this particular set can affect scores at least to some extent. It is possible that the Ss in this study responded in what they perceived as a cooperative manner.
5. A last explanation, favored by the authors, is that controllability, measured here in only one dimension, is actually multidimensional. White and Ashton (1977) hypothesized that imagery control is actually four

> dimensions and that the imagery control concept might be more accurately measured if, rather than using a global test, a number of related subtests were used corresponding to the four components of controllability of imagery. Furthermore, the possibility exists that the imagery control concept is multidimensional, that is, fewer or more than four dimensions may exist. It should be noted also that the same may be true of vividness of imagery. At this point, research on imagery is limited by the state of the art of instrumentation.

Only one subtest of reading comprehension, peceived relationships, was not significantly related to visual imagery for either control or vividness. This subtest requires selecting a statement that best expresses the relationship among elements in a written passage. The ability to explain relationships is central to the solution of syllogisms which Huttenlocher has demonstrated can be solved via spatial thinking through the use of imagery. One explanation is that the relationships presented by the SRA test were not spatial in nature and Huttenlocher's results are not generalizable to nonspatial problem solving.

Conclusions

The data indicate that a relationship exists between visual imagery and reading comprehension for this sample. Both imagery vividness and imagery control are important to this relationship, although vividness plays a greater role. That vividness is the stronger element was especially evident in the relationship between imagery and inference abilities.

Based on the strength of their relationship to both controllability and vividness, vocabulary abilities appear Control of an image for use in either vocabulary or inference tasks does not appear to be as important as the clarity of the image. The inference tasks of grasping details and drawing conclusions appear to be related to imagery use, as are summarizing and understanding the author, though not as strongly. Perceiving relationships does not appear to be related at all with imagery use.

Although more research needs to be conducted, there are several areas where the results of this study might contribute to educational methodology. This research confirms that a significant relationship exists between imagery and vocabulary. In addition to teaching techniques commonly employed, encouraging the conscious use of mnemonic techniques using imagery might yield positive results in remembering word meanings.

A relationship has also been established between vivid imagery use and the reading comprehension skills of grasping details and understanding the author. Development of techniques using images to help recall details and decipher figurative language should also be encouraged. The skills of summarizing and drawing conclusions are also significantly related to imagery use. Specific techniques in the use of spatial thinking might prove useful in improving an individual's skill in these areas.

Further research is needed to confirm and expand any conclusions drawn from these results. Some specific areas for additional research include exploration of age and sex differences in imaging ability, correlation studies using imagery modalities other than visual, and the addition of objective performance tests in conjunction with the self-report imagery measure.

Imagery vividness, which is significantly related to inference skills, is reported to increase with age (White, Sheehan & Ashton, 1977), and control, which is the ability to produce a desired image, may be the most potent prior to age six or seven when imagery, which is freely produced in preschool fantasy play, usually goes underground, replaced by the discipline of school work (Singer, 1977). Therefore, research using samples both older and younger than that of the present study might yield results different from those found by this research.

Sex differences appear repeatedly in the literature, usually citing females as having greater powers of visualization and vividness (White, Sheehan & Ashton, 1977). Although an exploration of this factor was not part of this study a post hoc examination of male and female correlations between comprehension and imagery scores found the significant levels quite different between the sexes, but in a direction contrary to expectations established by the literature.

Although visual imagery is the mode most often used (Horowitz, 1970), other modes do exist and, for that reason alone, exploration of their relationship with reading comprehension should be explored.

Suggestive-accelerative learning and teaching is a method which enhances students' production of visual imagery. Imaging is related to students' memory, ability to grasp details, ability to summarize and increase vocabulary. Any approach that requires students to practice imaging may have an effect on these and other such cognitive abilities.

Finally, a use of objective performance tests of spatial thinking should be considered in future studies of imagery and reading comprehension. Indications are that high spatial imagers seem to excel when working with abstract material, or when a task is difficult and conditions are less than optimal for image arousal (Ernst, 1977). The use of objective measures in conjunction with self-report measures might give a better indication of an individual's imaging ability, as well as help to eliminate some of the inevitable contaminations caused by the response sets discussed earlier.

It is not possible to comprehend ideas without studying the language which expresses them, and language, no matter how abstract, is somehow related to the concrete, sensory world which is reflected in imagery. The imagistic roots of language are evident in the pictographic messages left by ancient civilizations, and in common phrases such as "the heart of the matter," which pictorially refer to real life features and events.

Although further research is needed, this study is consistent with findings which indicate that imagery plays a role in determining the meaning behind the written word.

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La lecture et l'image visuelle.
Cette étude traite de la relation entre l'aptitude des individus à produire et à manipuler des images visuelles et leur aptitude à la lecture compréhensible. La forme B de l'enquête sur lels images mentales (SMI), sous-óreuve de la modalité visuelle de la vivacité et du contrôle, fut utilisée pour tester l'aptitude à former des images de 104 élèves. On mit en relation les résultats des sous-épreuves de la Série d'Accomplissement SRA de l'étudiant avec les résultats des images obtenus dans le SMI. Plus précicément les sous-épreuves de lecture avec des rapports significatifs concernant la vivacité de l'image consistaient à saisir les détails, tirer les conclusions, distinguer le sens littéral et figuré, et aussi à résumer et à comprendre l'auteur. Les rapports de contrôle des sous-résultats concernant les tests de lecture étaient en général peu significatifs à l'exception du sens littéral et figuré. Les résultats laissent à penser

que la relation entre la lecture d'un individu et son aptitude à produire des images mérite une étude plus approfondie, et plus particuliérement un examen des différences d'âge et de sexe et avec des modalités de production d'images autres que visuelles.

Lesen und visuelle Vorstellungen.
Diese Arbeit untersucht die Beziehung zwischen der Fähigkeit von Einzelpersonen, visuelle Vorstellungen hervorzubringen und zu manipulieren, und der Fähigkeit, den Lesetext zu verstehen. Die Vorstellungsfähigkeit von 104 Schülern in der Sekundarschule wurden mit der Form B der Survey of Mental Imagery (SMI) (Überprüfung der geistigen Vorstellungsfähigkeit), dem Sehmodalitätsteiltest für Lebhaftigkeit und Kontrollierbarkeit, überprüft. Die Ergebnisse der Schüler für Leseverständnis- und Lesewortschatzteiltests der SRA Achievement Series (Leistungsserie) wurden mit den Vorstellungsergebnissen der SMI verglichen. Bedeutsam waren die Leseteiltests, die signifikante Vergleiche zu Vorstellungslebhaftigkeit zeigen, im Folgenden: das Begreifen von Einzelheiten: das Ziehen von Folgerungen; verbale und nonverbale Bedeutungen ebenso das Zusammenfassen und das Autorenverständnis. Vergleiche der Kontrollierbarkeitsteiltestergebnisse mit den Lesetests waren mit Ausnahme der wörtlichen Bedeutungen und nichtwörtlichen Bedeutungen im allgemeinen nicht signifikant. Die Resultate deuten an, daß die Beziehung zwischen der Lesefähigkeit und der Vorstellungsfähigkeit eines Individuums ein Thema ist, das einen eingehenderen Versuch wert ist, besonders in Beziehung einer Untersuchung der Alters- und Geschlechtsunterschiede mit anderen Vorstellungsmodalitäten außer den Visuellen.

Lectura e imaginación visual.
Este estudio examina la relación entre la habilidad de los individuos para producir y manipular imágenes visuales y su habilidad de comprensión de lectura. La habilidad imaginativa de 104 estudiantes de escuela superior por la forma B del reconocimiento de imaginación mental (SMI), subprueba de modalidad visual para la vivacidad y controlabilidad. Calificaciones para comprensión de lectura y subpruebas de lectura de vocabulario de las series de realización SRA que fueron relacionadas con las calificaciones imaginarias del las subpruebas de lectura con correlaciones significativas para vivacidad imaginativa fueron especialmente: comprender detalles, sacar conclusiones, significados literales y no literales, y también resumir y entender el autor. Correlaciones de la subcalificación de la controlabilidad de los exámenes de lectura, no fueron generalmente significativos con la excepción de los significados literales y no literales. Los resultados sugieren que la relación entre la lectura y la habilidad imaginativa de los individuos es un valioso tema de estudio más detallado, especialmente el examen de las difer-

encias de edad y sexo y modalidades imaginarias además de la visual.

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The Mechanics of Script Preparation for Accelerative Learning and Teaching

Eugene H. Staiger

Abstract. This paper addresses a perceived pedagogical need for script preparation guidelines. The emphasis is on scripts with factual information. Basic parameters are identified and discussed in depth. The script form is also considered. Brief "walk-through" instructions are given, integrating the basic concepts. The accelerative learning and teaching novice should be able to apply these procedures easily.

Introduction

Any teacher, educator, or trainer unfamiliar with accelerative learning and teaching (ALT) strategies most certainly would want to first learn about the process and structure. This can be done by reading the previous issues of this journal. During this initial learning phase, the teacher will be pleased with the abundant selection of episodical articles but perhaps will wonder where the more pragmatic information can be found.

Illustrations for script preparation can be found in Ostrander and Schroeder (1979). Other comparable examples are given in Prichard and Taylor (1980). This paper is in part a summary and an extension of their information. A few authors have given brief, general guidelines for writing a dialogue (See Appendix).

This paper was prepared to fulfill a personal need for more specific script preparation guidelines, especially for nonlanguage disciplines. The emphasis is on writing scripts with factual information. Some guidelines for dialogue writing are given.

The basic parameters of script preparation are presented first to form the groundwork. The script form is also considered. Then I give brief walk-through instructions for working through all the previously described steps. Finally, the special "continuous" pattern is considered which is applicable for story reading or a dialogue, for example. The ALT novice should be easily able to apply these described procedures.

The Basic Parameters

The principal parameters seem to be: breathing and speech patterns, duration of active (and passive) session, form of information to be learned, and syllable count.

The basic breathing and speech patterns from Ostrander and Schroeder's SuperLearning are summarized in Table 1. The breathing cycle consists of a particular exhale/inhale/hold pattern. The speech cycle consists of a pattern of silence and spoken words. The fundamental time frame is 4 seconds, or 4 beats. I have designated each pattern with a code, analogous to the musical time signature: number of silent beats/number of verbal beats.(1) The maximum number of vocabulary words for a 15-minute active session for each pattern is included in Table 1 to aid in the planning process. The 2:6 through 4:12 patterns are useful for longer sentences or for a slower reading speed. There is further opportunity for creativity, for example, the 4:8 pattern can be silence followed by continuous reading (as indicated in Table 1) or, silence followed by two distinct segments (a 4:4:4 speech pattern).

Another principal parameter for script preparation is the duration of the active (and passive) session. The session duration is dependent upon the total available time (one class period, for example) and the accelerative learning and teaching schedule. Roughly, the session duration will be one-third of the class period. Another third is devoted to some of the following: review, testing, relaxation, mind calming, joy of learning recall, at the discretion of the teacher. The remaining time is used for the passive session. I operate in 50-minute (lecture) and 3-hour (laboratory) time frames. I have restricted my script preparation to the 50-minute class, or an active session duration of 15 minutes.

The ALT schedule has some variability, with modifications dependent somewhat upon the age group, subject matter, prior activity, form of information to be learned, etc. My (untried) 50-minute schedule is given in Figure 1, fashioned after Caskey's model (1980). Prichard and Taylor describe in detail a two-day, remedial reading program in Accelerative Learning which could be studied for contrast.

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(1) Maximum number of cycle-frames per session = 60 x session duration (in min.)/cycle frame duration. This also equals the maximum number of vocabulary words, where cycle-frame duration equals the number of beats for a complete pattern.

The third principal parameter is the form of information to be learned. This may be a vague label, best explained by examples: vocabulary (English or foreign language), factual information, formulas or rules, foreign language phrases and dialogue, and the short story. Vocabulary can be presented a number of ways by utilizing a pairing or combination of pronunciation, spelling, meaning, and image-maker. An image-maker is a short sentence which contains the word in context (situational), suggests an image (normal or bizarre), suggests an associate, and so forth.

Syllable count is a parameter I created to use in lieu of word count because the syllable count gives the true number of required utterances. For example, "185" may be miscounted as one word, while it has six syllables. Maximum syllable count is my rule of thumb for establishing the upper limit of utterances. A 4-second fundamental time frame is used. One can use a prerecorded "click" audio tape or a metronome. I select some suitable material, read it out loud as rapidly as possible for about two minutes, write a mark through the syllable at each click and then determine the number of syllables between the marks. (Some readers may think this is an unnecessary exercise!) In a 4-second verbal frame I can utter, typically, 16 to 24 syllables. The average is 20 syllables. Now I assign a "flexible" upper limit at 75% of the average value, or 15 syllables. (The examples in SuperLearning have 1 to 12 syllables in a 4-second time frame.)

The actual syllable count of a word, phrase or sentence is also helpful, for two reasons. First, when the actual syllable count is compared to the maximum syllable count, one senses how to pace the utterances. I write the actual syllable counts on the script for reference. Second, the actual syllable count determines the most appropriate breathing and speech pattern. Say, for example, your vocabulary list has a) pronunciation plus spelling syllable counts ranging from 5 to 16, and b) definition syllable counts ranging from 4 to 37, both more or less uniformly distributed. From Table 1, you find that you must use the 4:12 pattern (or a 4:4:8, if you like). Now, the flexible upper limit (15 syllables) is applied. Maybe the long words can be eliminated from the lesson, or the longer sentences can be shortened. The authors of SuperLearning and Accelerative Learning both comment on the efficiency of learning from short sentences, originating most likely from the same unnamed source. They add that long sentences are best learned when kept as a whole, rather than segmented by the 4-second silence. If your vocabulary list has a few extra-long definitions which cannot be shortened or eliminated, then another cycle frame must be allocated for the remainder of each long sentence.

A more complex situation can occur which I call a mixture. After collecting the vocabulary words and their meanings for a particular lesson, you may discover that some meanings have only a few syllables and other meanings have many syllables. It is probably best to select one breathing pattern, say the 4:12 pattern, and treat the material in a quasi-continuous fashion.

The Script Form

Acknowledging the possible variations due to personal preference, I have adopted (and recommend) the form suggested in the cited references. Figure 2 is an example of vocabulary presented in the form: pronunciation, spelling, and meaning. The interior vertical lines can be thought of as timing lines, analogous to the musical bar lines. The syllable counts are indicated in the first column. The script can be embellished further by using a highlighter-type felt tip marker to encode the normal/whisper/loud intonation triplet. The student learning sheets can easily be made from this script; just delete the column of syllable counts and the spelled-out words.

Back to the Beginning

The process of script writing begins with the collection of working data: a self-generated vocabulary word list (English or foreign), a glossary or index extracted from a textbook, a list of foreign language phrases or short sentences, etc. If a glossary or dictionary is used to create the vocabulary, one should clean up any ambiguity, fifty-dollar words and circuitous definitions. You have, in essence, selected the form of the information to be presented. Next, find the appropriate syllable count values. You may elect to bypass the maximum syllable-count exercise. Now select the most appropriate breathing and speech pattern. Use the assigned or estimated active session duration to calculate the maximum number of cycle frames.

A draft copy of the script can now be prepared. Next, I recommend rehearsals initially with 4-second "click" audio tape or metronome and then with baroque music. Some modifications may be required. The script preparation is concluded with the final copy and the generation of the students' learning sheets.

The Continuous Pattern

I consider this pattern as another special case of the already-defined speech patterns with the silence frame excluded. Instead, only momentary natural pauses are utilized. Depending upon the form of the information, the 4:8 or 4:12 breathing pattern would be used. Foreign language practice is nicely suited to this pattern, as illustrated in Figure 3 (partial script; intonations not indicated).

A dialogue is also appropriate for a continuous pattern. A partial illustration is given in Figure 4. Only the foreign language portion is read out loud dramatically by the teacher. The students follow along in the "decoding" phase by passive reading of the English translation. I plan to use this dual column format with auditory-visual factual information: vocabulary (words and their meaning) in the left column and supraliminal diagrams, graphs and equations in the right column.

The length of the practice or dialogue script in total number of lines can be considered a parameter. An estimate can be found easily. First, the average number of syllables per whole line must be determined (9 for the German dialogue presented in Figure 4). Second, the "maximum" number of syllables for an active session is computed. The number of 4-second frames in a 15-minute session is 60 x 15 ÷ 4 = 225. Using my own "flexible" upper limit of 15 syllables per 4-second frame gives 225 x 15 = 3375 syllables in a 15-minute session. Finally, the quotient gives the total number of whole lines in the active session (for the example, 3375 ÷ 9 = 375). This estimated value should be checked with a rehearsal.

Discussion

I have presented a methodical process for script preparation which I find is lacking in the literature. I anticipate some of the steps being dropped or streamlined by the ALT practitioner as experience is gained. Note that several of the numerical parameters need to be determined only once. Hopefully this article will motivate others--in the arts and humanities--to add creatively to this initial work. Some guidelines for mathematics and physics, for example, are needed.

Appendix

General guidelines for dialogue script writing from accelerative learning and teaching practitioners:

Bancroft (1976) gives an illustration of the dual language, dual column format. The new (second, foreign) language dialogue is in the left column and the mother tongue language translation, used for "decoding," is in the right column.

Even Lozanov (1978) has little to say about this important component of ALT! In a single paragraph, entitled, "The Suggestopedic Textbook," he comments on the importance of complete and global themes, which contain covert motivational force and psychological structure and feature a particular kind of literary or combined literary/musical work.

Novakov (1981) comments briefly on the general requirements of exercises. He states that the exercises must stimulate the students' thinking processes. Some comments about, and French dialogue examples of, Novakov's approach are made by Belanger (1981). She states that a dialogue is written to serve as a pretext to place the student in a communication situation.

Pashmakova (1977) indicates that forethought and familiarity with suggestopedia are prerequisites for good dialogue preparation. She writes that each dialogue should be devoted to a global idea and written to enhance double-planeness, and to facilitate easy activation of the material.

Finally, first year German students' learning materials are described by Pullen (1979) in terms of content and form. One unit (one week) materials include five three-sentence dialogues, a vocabulary list, conversations and a things-to-do list.

Table 1

Breathing and Speech Patterns

Code	Simultaneous Cycles (+Beats)	Maximum Vocab. Words
4:4	Exhale Inhale Hold 1 2 3 4 1 2 3 4 Silence Words---------	112
2:6	Exhale Inhale Hold 1 2 3 4 1 2 3 4 Silence Words----------------	112
4:8 (or 4:4:4)	Exhale Inhale Hold 1 2 3 4 1 2 3 4 1 2 3 4 Silence Words-------------------------	75
4:12 (or 4:4:8)	Exhale Hold Inhale Hold 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 Silence Words-------------------------------	56

Figure 1: Accelerative Learning & Teaching Class Schedule (50-minute period)

Minutes	
00-10	Review, Discussion, Questions and Answers, Pretest
10-15	Mind Calming, Joy of Learning Recall, Desuggestion-Suggestion
15-30	Presentation of New Material, Active Session
30-45	Presentation of New Material, Passive Session
45-50	Posttest, Assignment

Figure 2. A portion of a spelling and vocabulary sheet showing script form

<table>
<tr><td colspan="2">Vocabulary Sheet No. _____</td><td>4:12 Pattern</td></tr>
<tr><td>1 2 3 4
(Silence)</td><td>1 2 3 4</td><td>1 2 3 4 1 2 3 4</td></tr>
<tr><td>6,17</td><td>Staff
S-T-A-F-F</td><td>A set of five horizontal lines and the intervening spaces.</td></tr>
<tr><td>6,20</td><td>Chord
C-H-O-R-D</td><td>A combination of the simultaneous tones in harmonic relation.</td></tr>
<tr><td>9,16</td><td>Melody
M-E-L-O-D-Y</td><td>The succession of single tones in musical compositions.</td></tr>
</table>

Figure 3. Foreign language practice script

Practice Sheet No. _____ 4:12 Pattern

	1 2 3 4 1 2 3 4	1 2 3 4 1 2 3 4
9,8	We are now in the month of August.	Wir sind jetzt im monat August.
8,9	Today is the 13th of August.	Heute ist der dreizehnte August.
13,12	My birthday is on the 14th of January.	Mein geburtstag ist am vierzehnten Januar.

Figure 4. A portion of a conversation between Messers Ritter and Schmidt. (From The Berlitz Self-Teacher, pp. 186-187).

Die Einladung	The Invitation
R: Guten Tag, alter Freund! Wie geht es Ihnen? Es freut mich unendlich, Sie widerzusehen!	Hello, old friend. How are you? I am pleased no end to see you again!
S: Ganz meinerzeits, Herr Ritter. Ich habe Sie lange nicht gesehen. Wie geht es Ihnen?	The pleasure is all mine, Mr. Ritter. I have not seen you for a long time. How are you?
R: Danke, ich kann nicht klagen. Seit wann sind Sie in Frankfurt?	Thanks, I cannot complain. How long have you been in Frankfurt?
S: Ich bin vor einer Woche hier angekommen. Ich habe hier geschäftlich zu tun. Was machen Sie hier? Sie wohnen doch in Wien, wenn ich mich nicht irre?	I arrived here a week ago. I have some business to do here. What are you doing here? You live in Vienna, if I am not mistaken?
R: Jawohl, ich bin zu Besuch hier. Ich muss sehr bald wieder Wien zurückfahren. Halten Sie sich länger hier auf?	Yes, I am here on a visit. I must go back to Vienna very soon. Will you be staying here longer?
S: Keineswegs. Ich bin soeben im Begriff, mir eine Fahrkarte nach Wien zu lösen.	Not at all. I am just about to get myself a ticket to Vienna.

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Le mécanisme de la préparation d'un script pour une acquisition et un enseignement accéléré.
Cet article souligne le besoin pédagogique bien perçu au sujet des lignes directrices dans la préparation d'un script. L'emphase est mise sur les scripts comportant des renseignements basés sur les faits. Les paramètres de base sont identifiés et discutés en profondeur. La forme du script est aussi prise en considération. On y mentionne aussi les instructions pour de brefs "walk-through," en intégrant les concepts de base. Le novice dans la pratique de l'acquisition et de l'enseignement accéléré devrait être à même d'utiliser ces procédés facilement.

Die Mechanik der Herstellung eines Textes für beschleunigtes Lernen und Lehren.
Dieser Versuch bemücht sich um Richtlinien für die Herstellung von Texten, ein anerkanntes Bedürfnis in der Pädagogik. Texte, die Tatsacheninformation enthalten, werden vorrangig ausgewählt. Das Thema ist identifiziert

und abgegrenzt. Die Form der Schrift wird auch betrachtet. Man bekommt kurzgefaBte, schrittweise erklärte Anweisungen, die die Grundbegriffe integrieren. Für einen Anfänger dieser Methode ist dieses Verfahren leicht anwendbar.

Las mecánicas de la preparación de la escritura para el aprendizaje y enseñanza acelerativa.

Este escrito consigna una necesidad pedagógica percibida para pautas de preparación de escritura. El énfasis se da en los escritos con información real. Parámetros básicos son identificados y discutidos a fondo. La forma de escritura es también considerada. Instrucciones breves son dadas, integrando los conceptos básicos. La principiante enseñanza y aprendizaje acelerativo, estarian capacitados para aplicar estos procedimientos.

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The Effects of Guided Relaxation and Baroque Music on College Students' Test Performance*

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Abstract. Students (n=62) in four sections of an undergraduate course, Foundations of Learning, were given unit tests under each of four conditions: 1) guided relaxation administered prior to testing, 2) baroque music played during testing, 3) both relaxation prior to testing and baroque music played during testing, and 4) control (no relaxation, no music).

Data analyses revealed no significant differences between groups. These results conflict with other subjective and objective reports regarding the use of these conditions during testing. Implications are discussed.

At a recent meeting of the Society for Accelerative Learning and Teaching (SALT, 1982), several claims were made by researchers and practitioners. The claims focused on the facilitation of learning resulting from the use of suggestive and accelerative approaches developed from the work of Lozanov (1978) which he called suggestopedia. The elements used in accelerative approaches include relaxation, imagery, baroque music, and suggestion.

At that conference, some suggested that the playing of music alone could increase students' test performance. Furthermore, some speculated that a relaxation experience prior to testing could increase test performance. Each of these conditions are relatively easy for teachers to institute in classes and should be considered viable options if they alone would increase students' test performance. In addition, it has been generally known that if the conditions under which learning takes place are reproduced during the testing of that learning, students' test performance will probably increase. It would certainly be beneficial to know what effect the use of baroque music and relaxation would have, not during learning and acquisition, but only during testing.

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Some of the literature does suggest such outcomes. For instance, Schuster and Mouzon (1981) stated, "...learning was best when baroque music had been played during learning or during the quiz over such vocabulary learning" p. 2). Blanchard (1979) stated that music (both classical and rock-and-roll) significantly affected final exam scores when played during the final exam compared to control subjects' final exam scores where no music was presented during the exam. Ostrander and Schroeder (1979) said that the effects of altered states, music and rhythm on students' test performance have been amazing. Not only is empirical literature on this issue lacking, but the quality of the research that has been reported is difficult to judge.

There are subjective reports regarding the effect of relaxation on students' test performance, for instance, the report of a teacher of German who administered guided relaxation to students prior to testing. This activity, it was suggested, yielded student performance on the exam that surpassed previous performance. This teacher was convinced that the relaxation experience facilitated those results (Roberts & Clark, 1975). Hendricks and Wills (1975) stated that relaxation can help students improve test scores, sports performance and social skills. There is limited empirical evidence regarding this issue of the effect of relaxation on test performance. Straughan and Dufort (1969) suggested that the results of their experiment indicate that relaxation does affect immediate and delayed recall of verbal material. They also stated that relaxation prior to acquisition of material was more effective than relaxation prior to recall.

This study was designed to investigate the effect of baroque music, relaxation, and the combinastion of baroque music and relaxation on college students' test performance. The null hypotheses formulated were:

1. There will be no significant differences between students' test scores under the conditions of baroque music played during testing, relaxation experience prior to testing and relaxation experience prior to taking a test while baroque music is playing.
2. There will be no interaction between treatment and section for the within-subjects analysis.

Procedure

Four sections (classes) of the undergraduate course, Foundations of Learning, at the University of Wyoming were selected for the study. The course is required for undergraduate teacher education majors and the majority of students were sophomores and juniors. The four sections were all taught by the same instructor and all four teacher-constructed unit tests were administered to all groups on the same test day. The multiple choice tests were objective and referred to course content as found in the course textbook. Each section was assigned to each of four conditions over the semester. The conditions were:

1. Baroque music (a 60-minute tape of music with a steady 4/4 beat and approximately 60 beats/minute combined words of Vivaldi, Telemann and Handel) played during the administration of the test.
2. A guided relaxation experience (10 minutes, recorded to standardize the procedure) immediately prior to test-taking.
3. The combination of guided relaxation experience immediately prior to test-taking and the playing of baroque music during test-taking.
4. Control; no relaxation, no music.

Each of four sections was administered four unit tests during the semester. For each unit test, the four treatments were administered, a different treatment being applied to each section. Furthermore, each section received all four treatment conditions, one at the completion of each unit. The application of treatment conditions was determined by a Latin square, but the data were analyzed by a series of four one-way analysis of variance using percentage scores and four repeated measures analyses of variance using standard scores. For the latter, "section" was a between-groups variable and "treatment" was within-subjects variable.

Results

There were no significant main effects for any of the unit tests. For Unit Test 1, F(3,109)=.59, for Unit Test 2, F(3,97)=1.14, all p<.3). Means and standard deviations are summarized in Table 1.

A 4 (section) by 4 (treatment) factorial analysis of variance with repeated measures on the second factor was performed on z-scores. The standard scores were computed using the means and standard deviations of the treatments pooled across sections.

The main effect due to section was not significant (F(3,58)=.07, p>.95). The main effect due to treatment was not significant (F(3,56)=.43, p>.70). The interaction effect, however, was significant (F(9,136)=6.29, p<.0001). Simple main effects tests revealed a significant difference among the treatment conditions for section one (F(3,174)=4,07, p<.001), section two (F(3,174=5.47, p<.001), section three (F(3,174)=2.25, p>.05). Table 2

Table 1

Number-taking test, average percent correct and standard deviation on unit tests by unit and treatment

Unit Test	Treatment	N	Ave.	S.D.
1	control	25	72.64	11.84
	music	25	75.28	11.74
	relaxation	33	75.45	11.09
	music/relaxation	30	76.67	10.95
2	control	29	85.07	7.56
	music	30	83.87	8.65
	relaxation	22	82.41	10.43
	music/relaxation	28	83.89	9.61
3	control	22	77.77	12.46
	music	17	78.76	10.87
	relaxation	26	81.00	8.83
	music/relaxation	27	80.00	10.80
4	control	30	73.40	12.27
	music	30	78.53	6.81
	relaxation	24	77.00	11.18
	music/relaxation	17	75.24	14.81

shows the inconsistent pattern of performance that contributed to the significant interaction.

For section one, the music treatment performed the highest (X=.38) while the control group performed the lowest (X=-.28). For section two, the music-combined with-relaxation group performed the highest (X=.54) and the music-only group performed the lowest (X=-.48). In section three, the control group was superior (X=.54) while the music-combined-with-relaxation group was lowest (X=-.39). Although section four only approached significance (p=.08), the pattern was one of relaxation treatment high (X=.48) and control group low (X=-.48).

In summary, the null hypothesis of no treatment effect was not rejected. Neither the between-groups analysis nor the within-subjects analysis generated any evidence of a treatment effect. Although the null hypothesis of no interaction between treatment and section for the within- subjects analysis was rejected, the pattern of findings was difficult to interpret in terms of a treatment effect and its dependency on section.

Table 2

Average standard scores and standard deviations by section and treatment

Section	Treatment	Average	S.D.
1 (n=23)	control	-.28	.95
	music	.38	.99
	relaxation	-.15	.84
	music/relaxation	-.09	.90
2 (n=14)	control	.03	1.12
	music	-.48	1.07
	relaxation	-.18	1.16
	music/relaxation	.54	.75
3 (n=17)	control	.54	.75
	music	-.19	.85
	relaxation	.14	1.04
	music/relaxation	-.39	1.14
4 (n=8)	control	-.41	1.09
	music	.13	.86
	relaxation	.48	1.05
	music/relaxation	.16	1.08

Discussion

As the results indicate, the use of relaxation prior to testing, the playing of baroque music during testing, or the combination of relaxation and baroque music had no significant effect on students' test performance. These results conflict with other subjective and objective reports of the effect of those conditions on students' test performance. It should be noted that not all students in all sections were tested under all four conditions due to missed exams, illness, or other schedule conflicts, or a student may have requested being excused during a particular condition. This was a condition stated at the beginning of the course, that is, students were not required to take a test under any particular condition if they felt the condition would interfere with their performance. It was possible, therefore, that the voluntary participation in the study affected the results. That effect can be seen by comparing the sample sizes on Tables 1 and 2. Expected and normal student attrition also affected the sample size (beginning of course, n=113). Only students who took tests under all four conditions were included in the within-subject analysis of data (n=62).

It is also possible that for relaxation and/or baroque music to strongly affect test performance, they should also be used during the acquisition of material. Other research does support the effect of that combination. This study suggests that these conditions just before and during testing offer no guarantees regarding student performance. Teachers would be wise to use the conditions during both acquisition of material and testing recall of that material.

Finally, it should be noted that this study selected only two of the variables used in suggestive-accelerative approaches to teaching and learning. It appears that it is the combination and interaction of all elements that create a successful approach. The components independently do not have the impact of the total approach. The whole is greater than the sum of its parts.

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Les effets de la relaxation dirigée et de la musique baroque sur le test de performance des étudiants d'université.

On a administré des tests d'unité en respectant chacune de nos conditions à des étudiants (n=62) des quatre sections d'un cours sous-gradué, les Fondements de l'acquisition: 1) la relaxation dirigée et effectuée avant l'épreuve; 2) la musique baroque entendue pendant l'épreuve; 3) les deux à la fois: la relaxation avant l'épreuve et la musique baroque

entendue pendant l'épreuve; et 4) le contrôle (sans relaxation et sans musique).

Les analyses des données ne révélent pas de différences significatives entre les différents groupes. Ces résultats contredisent les rapports subjectifs et objectifs relatifs à l'utilisation de ces conditions pendant l'épreuve. On discute les implications.

Die Ergebnisse von gelenkter Entspannung und Barockmusik auf die Leistung von Hochschulstudenten in Prüfungen.
Studenten in den ersten Semestern (N=62) in vier Gruppen eines Kurses "Grundelemente des Lernens" wurden unter den vier nachfolgenden Bedingungen geprüft: 1) gelenkte Entspannung vor der Prüfung; 2) Barockmusic während der Prüfung; 3) Entspannung vor und Barockmusic während der Prüfung; 4) keine Entspannung, keine Musik (Kontrollgruppe). Datenanlysen ergaben keine signifikanten Unterschiede zwischen den Gruppen. Diese Resultate widersprechen Bedingungen während des Prüfens. Die Implikationen sind behandelt.

Los efectos de la relajación guiada y la música barroca en la ejecución de exámenes en estudiantes colegiales.
En un grupo de 62 estudiantes de un curso de bachillerato, en cuatro secciones fueron dados los fundamentos del aprendizaje en unidades de exámenes bajo cada una de nuestras condiciones: 1. Relajación guiada, aplicada con anterioridad al examen, 2. Música barroca, tocada durante el examen, 3. Ambas, relajación aplicada antes del examen y música barroca durante el examen, 4. Control (sin relajación y sin música). El análisis de los datos no reveló diferencias significativas entre los grupos. Estos resultados opuestos a otros informes subjetivos y objetivos, consideraron el uso de estas condiciones durante el examen. Las implicaciones son discutidas.

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A Review of the Role of Imagery in the Creative Process

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Abstract. Mansfield, Busse and Krepelka (1978) reviewed various programs purported to increase creative production. The conclusions derived from the review suggested that creativity programs available do tend to increase students' performance on divergent thinking tasks. A problem presents itself, as divergent thinking has historically been viewed as the essence of creative thinking. The problem is best posed in terms of a question, that is: Is divergent thinking the essence of creative thought? Or to put it another way, is there transfer from being able to perform well on divergent thinking tasks to "real-life" situations where creative thought is essential to the solving of problems? We just do not know, with any degree of certainty, that the facilitation of divergent thought production results in creative performance apart from performance on creative measures.

The preceding is not meant to suggest that divergent thought training is nonproductive. It is possible, however, that creativity is being limited by great attention to this component of the creative process. Self-reports from creative individuals suggest that states of consciousness seem to play a major role in creative problem-solving (Krippner, Dreistadt and Hubbard, 1972). In fact, it is suggested that many variables within the area of transpersonal psychology may be worthy of attention in understanding the creative process (Render, 1982). This paper discusses implications of one of these consciousness-related (transpersonal) variables in the creative process; that is, the role of imagery.

Before considering the role of imagery in the creative process, it is important to have an understanding of creativity in general. Gowan (1978, p. 23) defined creativity as "the productions of material or relationships new to the culture." Arieti (1976) noted that creativity is often seen as the human counterpart of God's creation except that God began with nothing whereas humans start with existing material and change it in unpredictable ways. Creativity can occur in many areas including the arts, philosophy, sports, religion, childrearing, wit and science. Although originality and spontaneity are necessary parts of creativity, they are not sufficient ingredients. Creativity also must be understandable and acceptable to the ordinary mind (Arieti, 1976). That is, the result of the creative process must be something of value to society as well as to the individual. Whether it be a work of art, a scientific invention, or a new idea, the creative product must not only enlarge the individual creator's experience but also humanity's experience. Most definitions of creativity acknowledge this need to benefit society, yet different creative products must be recognized for the different ways in which they benefit society. A scientific discovery is highly practical while a new poem provides aesthetic pleasure. Creativity can range from the earthly to the spiritual and be valued for different reasons.

A significant aspect of creativity is that it is a human capability derived from the ability to symbolize (Rugg, 1963). "The creative process differs from the ordinary functions of the mind insofar as it uses many kinds of symbols....in different contexts or proportions, so that these new, different contexts and proportions themselves become symbols of things never before symbolized or else symbolized previously in different ways" (Arieti, 1976, p. 39).

The question of why humans create has generated many theories. Creativity can be seen in Gestaltist terms as the need to complete the incomplete, to attain simplicity, harmony and beauty. The Freudian view comes close to this notion of desiring to complete the incomplete in its premise that creativity is a means of fulfilling one's wishes. In Freudian thought, creativity is often linked to neuroses in that "both originate in conflicts which spring from more fundamental biological drives" (Arieti, 1976, p. 22). Creativity then can be viewed as a means of compensating for one's inadequacies (May, 1975). In addition, creativity in Freudian terms may be a diversion of repressed sexual energy, or it may be the sublimation of sexual curiosity into the inquisitive attitude of creativity (May, 1975).

This link between creativity and neuroses which the Freudians see, should be clarified. Though some creative people have neurotic and psychotic problems and though in some cases these problems even shape their creative work, to assume that all creative people are sexually frustrated or neurotic would be incorrect, for "is reality unsatisfying only because of sexual frustrations and neurosis? Is the creative person's discontent only a disguise for lack of sexual gratification? What about discontent about other aspects of the human predicament?" (Arieti, 1976, p. 23).

Contrary to viewing creativity as the result of sickness, many view creativity as a function of every human ego which, if fulfilled, leads to psychological health. When energy is diverted from self-growth to the defense mechanisms of neuroses and social constraint, this creative potential will seldom be realized. Yet when individuals are accepting of their inner and outer selves, they are free to realize their creative potential and to become self-actualized.

Even when a differentiation is made between ordinary creativity and the great creativity of genius, this acknowledgment of the creative potential in all humans and the possibility of psychological health which accompanies the fulfillment of such potential leads to the ackowledgment of the importance of understanding the creative process in order to release the creative potential in an optimum number of people.

> The creative process must be explored not as the product of sickness, but as representing the highest degree of emotional health, as the expression of the normal people in the act of actualizing themselves. Creativity must be seen in the work of the scientist as well as in that of the artist, in the thinker as well as in the aesthetician; and one must not rule out the extent to which it is present in captains of modern technology as well as in a mother's normal relationship with her child (May, 1975, p. 40).

Most information about the creative process has been obtained from the accounts of creative people. Jules Henri Poincaré, a great mathematician who established the existence of a class of Fuschian functions, examined the creative process in himself and delineated it in his autobiography. It is from accounts such as his and those of the physiologist Hemholtz, the physicist Einstein, the poet Coleridge and other recognized creators that investigators have obtained information on how the creative process works that is, all of the accounts share evidence of several stages including preparing, putting the project aside, and discovering.

Extracting from accounts such as these, Wallas (1926) suggested a four-stage theory of the creative process which has generally been accepted as it stands or with some variations. The four stages of his theory are preparation, incubation, illumination and verification. The first stage entails the groundwork stage in that the creation of anything requires a solid knowledge of its component parts. This requires that an individual first encounter the idea, material, object or problem which will be the kernel of the creative product. Such an encounter may be intended or it may be accidental, yet it must have the quality of engagement (May, 1975). Engagement refers to the degree of absorption a person has with the subject or idea encountered. Being totally absorbed, having passion for a problem or an idea, seems to be a prerequisite of genuine creativity and can separate fulfillment of a talent from mere possession of a talent (Rugg, 1963; Arieti, 1976). The individual must put in long hours in coming to understand a problem before it can be solved or in perfecting a talent or skill before it can be used to create. That is, the mathematician must build up an understanding of the subject area and exert effort in attempting to solve its problems. Similarly, the dancer must obtain the necessary skills to dance and put in arduous hours of exercise and practice before reaching a level of perfection which will lead to the creation of a work of art.

Oftentimes the preparation stage involves left-brain functions of analysis, abstraction and logic. This would be the case in both the work of the scientist in setting up a problem and in the work of the artist in planning a painting. However, preparation need not involve only left-brain functions; right-brain functions of spatiality, intuition and imagination might also be at work (McCallum & Glynn, 1977). Though preparation is usually referred to as logical, left-brain activity, it is more complex than that. The preparation stage is more aptly characterized by its quality of conscious awareness. During preparation, one is aware of working on a problem or of seeking a discovery and expends conscious effort towards that end (Rugg, 1963).

Conscious work is put aside, however, in the following stage, incubation. During this period, the person is unaware of working on the problem or of seeking an answer. Yet the mind is not passive during incubation. Rather it appears that "in ways unknown to us or of which we have little or no consciousness, the accumulated material undergoes an internal elaboration and organization" (Arieti, 1976, p. 15). Although the exact nature of this processing is not known, several hypotheses have been made regarding the workings of the mind during the incubation stage. One view is that during incubation, the mind uses primary processes including imagery to deal with material gathered during preparation. Primary processes in Freudian terms are primitive forms of thought relegated mostly to the unconscious (Arieti, 1976). Arieti hypothesized that not only are primary processes at work but that it is the intricate combinations of primary and secondary processes as well as their separate workings through which "in what seems a 'magic synthesis'...the new, the unexpected and the desirable emerge" (p. 13).

Like Arieti, Rugg (1963) acknowledged the intricate combinations of primary and secondary processes in his theory of the transliminal mind. His theorem postulated that a continuum of consciousness exists in the human mind. The continuum ranges from the unconscious on one pole to the conscious on the other pole with the transliminal mind, an antechamber which has access to both poles, in the middle. The transliminal mind, according to Rugg (1963) is the only part of the continuum which is free from internal and external censorship and thereby free to make new associations, the jumping off point for creativity. The incubation stage is one then in which the transliminal mind is constantly processing information from the conscious and unconscious minds and restructuring, synthesizing and discovering new relationships in its censor-free environment.

One study (Mednick, Mednick & Mednick, 1964) examined the incubation stage in the context of an associationistic approach. It was hypothesized that incubation would be enhanced by occurrence of a specific associative printing of the relevant associative elements of the solution to a problem. They found that subjects who had been primed with associative elements that would serve to facilitate the combination of crucial elements solved problems on the Remote Associates Test to a significantly better degree than did controls, presumably because they were given stimuli which served to facilitate the combination of crucial elements during the incubation stage ($n=30$, $p<.05$). Another study (Dreistadt, 1969) examined the premise that analogies are used to make original discoveries as well as the premise that a period of incubation enhances creative problem solving. He found that the perception of visual pictorial analogies during the problem-solving process enhanced the results ($n=40$, $p<.01$) and that the combined effect of perception of visual pictorial analogies and incubation resulted in the greatest number of solutions to one puzzle problem ($n=40$, $p<.05$). Incubation by itself did not aid problem solving in this study, but the incubation period was a mere eight minutes whereas in normal creativity, incubation may last months or even years. The two studies seem to indicate that mental processes such as analogy and association are at work during incubation and that such processes enhance creative problem solving.

Following incubation is Wallas' third stage, illumination. Commonly, after putting aside the material idea or problem one has been working on, a solution or discovery flashes into awareness. Whether following an incubation period of a day or a month, the illumination is characterized by sudden insight. This insight appears with such certitude that it is instantly recognized as the solution, the harmonious, the complete (Rugg, 1963). Oftentimes the flash appears not in logical form but in the symbolic form of an image. Kekulé discovered the formula for the benzene ring in the form of a hypnagogic image of a snake that had seized hold of its own tail. Dmitri Mendeleev was able to complete his "Periodic Table of Elements" after a similar vision in which the elements fell into place as required. And even if verbal processing is also involved, as in poetry and literature, imagery can still play a role in illumination. For example, when writing Kubla Khan Coleridge found that images appeared and were processed into corresponding expressions without any conscious effort on his part (Gowan, 1978).

It has been hypothesized that to experience the imagery of illumination requires a tuning into the transliminal mind so that symbolic transformations which have been made there can find their way into conscious awareness (Rugg, 1963). Such a hypothesis is based on the Wallas paradigm since it assumes that material stored in memory during preparation is transformed by nonconscious thought into a new form during incubation and is then brought into conscious awareness by tuning into these nonconscious processes during illumination. However, the tuning in does not appear to be accomplished through conscious effort. Instead it appears to be achieved through relaxed concentration and reduction of sensory stimulation which enhance imagination imagery by increasing the probability that an individual will be aware of and will attend to the inner world of stimulus events, the world of the transliminal mind (Richardson, 1969). Even though dreams can play a role in illumination, they are excluded from the term imagination imagery since they are a function of the unconscious mind and cannot be attended to in a waking state (Arieti, 1976).

Reaching an altered state of consciousness where one is both relaxed yet attentive and where sensory input, both internal and external, is at a minimum can be achieved in a variety of ways. "Rest, solitude, darkness and meditation" will enhance the experiencing of imagination imagery (Arieti, 1976, p. 46) as will hallucinogenic drugs, sleep deprivation and being in the twilight state between waking and sleeping (Richardson, 1969). Rugg (1963) calls this altered state the Taoist state of no mind where "in one way or another, we get the conscious mind off guard so that contacts on the fringe of consciousness can be established. Then the spark explodes the meaning" (p. 11).

Following this explosion of meaning which characterizes illumination is the final stage of verifiction. Verification is necessary in order to critically evaluate one's intuitive discovery in terms of its usefulness, completeness and correctness. Here a distinction can be made between science and art, between problem solving and discovery. "While the scientist's solution of his problem must be susceptible to precise and public conformation or refutation, the artist's product cannot be verified by another" (Rugg, 1963, p. 35). While in science, verification of a discovery through scientific measurement and analysis of observable facts is necessary, in art such a process does not hold true. Instead "verification must be replaced by evaluation and improvement of different sorts, or by repetition of the stage of illumination" (Arieti, 1976, p. 19). Thus a distinction between logical and expressive types of creativity is evident in this final stage.

The whole concept of unfolding stages which characterize Wallas' theory should be viewed as a useful way of looking at the creative process rather than as an exact description. "The recognition of distinct phases may be maintained, with the proviso that in pure form they exist only as abstractions, an overlapping or repetition of phases always existing to various degrees" (Arieti, 1976, p. 18).

Having looked at the stages of the creative process, several generalizations can be made. First of all, the creative process requires both conscious and nonconscious thought. Conscious thought occurs during the initial preparation stage and during the final verification stage while nonconscious thought occurs during the incubation stage and flashes into conscious awareness in the illumination stage. Secondly, both left-brain functions and right-brain functions are used in the creative process. Often the left-brain functions are associated with conscious work while the right-brain functions are associated with nonconscious work. Such a view is too simplistic, for both can be present in either conscious or nonconscious thought. The hemispheres of the brain do not differ in the kinds of information they can process but in way they process it. Their cognitive modes differ. Thus "both the left and right hemispheres have the potential to generate new and efficient information-processing strategies. That is, both hemispheres can be seats of creativity. Furthermore, strategies characteristic of each hemisphere may interact to produce creative acts" (McCallum & Glynn, 1977, pp. 269-270.

Knowledge about the functions performed by each hemisphere of the brain have come primarily from research on split-brain patients whose corpus callosum has been severed. In addition, dichotic listening, tachistoscopic image presentation, EEG responses, conjugate lateral eye movements and self reports have been used to determine hemispheric specialization. The findings of such research suggest that the left brain is specialized in abstract, analytical, digital, logical, sequential, temporal and verbal operations while the right brain is specialized for aesthetic, analogic, concrete, holistic, imaginal, intuitive and spatial functions (McCallum & Glynn, 1977).

Studies which support the position that creativity is largely right-hemispheric have been called into question. First of all, using the direction of lateral eye movements to determine hemispheric dominance is a premature assumption because not enough evidence supports such an assumption (Ehrlichman & Weinberger, 1978).

What can be supported is use of both hemispheres in the creative process. Most real-world tasks need the functions of both left and right hemispheres. Painting, though dependent upon right-brain functions also uses left-brain functions in "analysis and communication of the techniques required to produce a finished product" (McCallum & Glynn, 1977, p. 269). The converse is true of primarily left-brain tasks such as arithmetic computation which can be enhanced by concrete, holistic and spatial operations of the right hemisphere.

It is of interest to look at research which examines the relationship between right-hemispheric activity and creativity to emphasize the complexity of their relationship. Gur and Reyher (1976) investigated the effects of hypnosis on creativity in a carefully designed study which avoided contamination of control groups, social desirability and other pitfalls. They had three treatment groups and one control group. The treatment groups experienced the same treatment in their first session where they were individually hypnotized for one hour, encouraged to use free imagery and allowed to talk and write. At this session, they were given the suggestion that at the following session an experimenter would be able to hypnotize them by counting from one to ten. At the second session, the three groups received different treatments. After hypnotizing each individual by counting from one to ten, the experimenter gave different suggestions to each of the individuals according to the group to which they had been randomly assigned: Group One would be hypnotized when the experimenter counted from one to ten; Group Two would not be hypnotized by the experimenter's counting but would behave as if hypnotized; and Group Three would not be hypnotized by the counting and would behave normally. At the third session, after the above suggestions occurred, the subjects took the Torrance Test of Creative Thinking after being given instructions which disguised the true nature of the test. The control group received no treatment and met for only one session where they took the same test but with standard instructions. Gur and Rehyer found that hypnosis in combination with visual imagery as a vehicle of presentation, the passive voice in representing instruction, misrepresentation of the true nature of the creativity test and very little possibility of indirect or spontaneous hypnosis in the control group was successful in enhancing creativity. Since previous experiments using hypnosis alone had not found such an enhancement, it was concluded that hypnosis, a right-hemispheric activity, could be a contributing factor to creativity but would not be a sufficient factor by itself.

A study by Bowers (1978) found a significant correlation between effortless experiencing of imagery, fantasy, original ideas and creativity as well as to high hypnotizability. Using thirty-two subjects (one half rated as high hypnotizable and one-half rated as low hypnotizable by the Harvard Group Scale of Hypnotic Susceptibility, Form A), she found a significant relationship between high hypnotizability and each of the following: absorption in a task ($p<.001$), creativity ($p<.001$). She also found significant relationships between creativity and each of the following: absorption in a task ($p<.05$), vividness of imagery ($p<.05$), effortless experiencing ($p<.001$).

However, brief instructions to effortlessly experience imagery, fantasy and original ideas were not sufficient to increase creativity. Further, the study suggested that imagery vividness and hypnotizability are most likely related only via their common variance with effortless experiencing.

A study by Boyle and Render (1982) found a significant relationship ($p<.05$, $n=56$) between the use of guided fantasy journeys and seventh grade students' scores on the Torrance Test of Creative Thinking. This study suggests that the use of guided fantasy (a primarily right-brain activity) affected creative production.

That there is some kind of relationship between creativity and right hemispheric activity is confirmed by these studies, yet no clear-cut determination of the nature of that relationship has been made. The relationship between hypnotizability, guided fantasy journeys, imagery and effortless experiencing adds support to the self reports of many creative individuals who gain insight necessary to the creative process upon entering an altered state similar to that of hypnosis where they effortlessly experience imagery.

One further study has important educational implications since it found that training in a specific mode of learning and thinking (hemisphericity) can lead to modifications in one's preferred hemisphericity and that exposure to a variety of styles of thinking and learning can produce a more integrated, interhemispheric style (Reynolds & Torrance, 1978).

In the experiment, two groups received different treatments. Group One, 200 gifted and talented high school students, received indirect training in different ways of thinking by working two hours each day on their own specialities and the rest of the day on interdisciplinary activities during which deliberate attempts were made to have students look for relationships between disciplines. Group Two, 68 graduate students enrolled in a course on creative thinking, received direct training in use of right-hemispheric processes through activities such as brainstorming and imaging. Measured changes in Your Style of Learning and Thinking, a self-report measure of thinking style, were significant for both groups. These results provide support for the hypotheses that exposure to a variety of styles should produce a more integrated style and that training in a specific style (right-hemispheric) should produce a shift towards that hemisphere (Group 1, n=200, p<.001; Group 2, n=68, p<.001).

A third generalization about the creative process is that imagination imagery is used in both incubation and illumination. The mind experiences a continual flow of images below the threshold of awareness (Rugg, 1963). During the incubation stage, the material stored in one's memory during preparation seems to be recreated into something new through the symbolic functioning of imagery. In addition, it is commonly an image which breaks into conscious awareness to provide the sudden insight characteristic of illumination. Imagination imagery at work below the threshold of awareness is thus crucial in the incubation stage of the creative process and is responsible for insight when it makes its way into conscious awareness. Imagination is as important as logical thought.

The generalizations about the creative process indicate that both conscious and nonconscious processes, and both left-brain and right-brain functions are necessary for creativity to occur. In addition, the ability to experience and use one's imagination imagery could be as important as the ability to use logical thought. Yet schools in Western culture often neglect half of the presumed ingredients of the creative process. While cultivating use of conscious awareness and of left-hemispheric functions of logic and analysis, they often neglect use of nonconscious awareness, that is, altered states of consciousness, and of right-hemispheric functions of imaging and intuition.

If ways to enhance the experiencing of right-brain, nonconscious imagination imagery could be found, schools might wish to use such techniques in their classroom in order to enhance their students' imaginations and possibly to realize their creative potentials. Techniques which aid students to reach altered states of consciousness where they will become aware of and will attend to imagination imagery might be one way to enhance imaging ability. In order to address the problem of which techniques would work best, a better understanding of imagination imagery will be necessary.

Imagination imagery is one of four types of mental imagery delineated by Richardson (1969). Mental imagery according to Richardson:

> .sp to (1) all of those quasi-sensory or quasi-perceptual experiences of which (2) we are self-consciously aware, and which (3) exist for us in the absence of those stimulus conditions that are known to produce their genuine sensory or perceptual counterparts, and which (4) may be expected to have different consequences from their sensory or perceptual counterparts (pp. 2-3).

His definition summarizes the necessary characteristics of mental imagery. Imagery exists in our minds only. That is, it is not the result of sensory stimulus from external sources. In this way, it differs from perception "which relies on the external senses and apparatuses" (Arieti, 1976, p. 44). Yet imagery is quasi-sensory or quasi-perceptual because it is experienced in the same way as sensory and perceptual events. This is not to say that imagery is mistaken for reality, for such delusions are characteristic of hallucinations. In normal experiencing of imagery, the person recognizes that the image is not a percept but rather a mental representation. Normally the consequences of imagery are different than those of true sensory and perceptual experiences in terms of one's reaction. For example, an individual would not attempt to eat an imagined salad but perhaps would attempt to paint it or would simply forget about it. Although images are not provoked by external sensory stimulation or perception, they "are connected with past perceptions; they are elaborations of memory traces" (Arieti, 1976, p. 45).

In sum, though little is known about the neurophysiology of imaging, it is commonly agreed that imagery is an inner reality similar in form to but not due to the external reality of the senses. Of what use is this inner reality?

Although humans are not born with the ability to form images, they begin to experience it around the seventh month of life (Arieti, 1976). It is this imaging ability which allows the child to understand object permanence. Mother now exists for the baby whether she is present or not because the baby can now form her image. In that imagery is representative of something else, it is a symbolic function (Arieti, 1976).

Through their ability to symbolize, humans differ from other animals and are able to create. Thus one important function of this inner reality is its role in the creative process.

Just as a flower may be sensed in many ways from its appearance to its bouquet, from its texture to its taste, so may an image be sensed. Imagery can be experienced in any of the sensory modalities such as visual, auditory, tactile, gustatory, olfactory and kinesthetic as well as combinations of the modalities. Thus one person might commonly experience visual and kinesthetic images while another might experience visual-auditory and tactile images.

Khatena (1976b) explored the use that college men and women made of visual, auditory, cutaneous, kinesthetic, gustatory, olfactory and organic sense modalities when producing original verbal images on *Onamatopoeia and Images*, a measure of verbal originality. His results showed that the subjects most often used visual, auditory, visual-auditory combined and other combinations of two or more modalities, and that they used several modalities more than a single modality ($p < .01$). Attempting to train the subjects to use the auditory sense did not significantly alter their originality scores nor the sense modalities used.

In a second investigation of sense modalities and original verbal image production, Khatena (1978) investigated the effect that autonomy of imaging had on sensory modalities used. He found that both moderately autonomous ($n=41$) and low autonomous imagers ($n=31$) used multiple sense modalities more frequently than a single sense in their production of original verbal images ($p < .01$). He concluded that autonomomy of imagery does not appear to influence number of modalities used.

Though much of the literature indicates that imagery is most commonly experienced in the visual and/or auditory modalities (Arieti, 1976), a study by Lindauer (1969) produced contradictory results. Lindauer's purpose was to develop a set of materials in which both the imaginal and sensory content of words in five modalities were standardized. First a panel of judges selected a list of words which referred to each of the five sense modalities--smell, sound, taste, touch and vision--and which were highly evocative. Then, in a second study, he obtained the ease of evocation of and vividness of imagery by presenting the list to volunteer subjects. The results of this study were that in evocation of imagery, touch words were more effective followed by referring to taste, vision, sound and smell ($n=21$, tactile words $p < .01$). Further, for most subjects, the ease of evoking images in response to the words was high. In the evidence of imagery, which was judged mostly moderate, taste words were most effective followed by words referring to taste, touch, vision, smell and sound words $n=21$ $.05 > p > .01$). Contrary to prior findings, taste and touch were overall the most effective modalities while sound was the least effective modality in imaging. Lindauer suggested that these results are due to the difference between his list and those designed earlier by individuals including Tulving, Paivio, Haager and Bowers. Lindauer's list included only highly-imaginal words while he contends that other lists are often low in imagery. Also Lindauer's list included nouns, adjectives, verbs and adverbs as opposed to only nouns.

One other study (Forisha, 1978) found that subjects who use auditory-visual imagery show stronger relationships between vividness or visual imagery and creativity than do those who use primarily visual imagery ($n=78$, $p<.05$). Clearly more research should be done investigating the use of sensory modalities during imaging. Particularly of interest would be research on the use of sensory modalities in different creative tasks such as problem solving, discovery learning and production of original verbal images in order to learn which modalities are most effective in different tasks. What is clear at this point is that individuals experience imagery in individual ways as far as sensory modalities are concerned. That is, individuals may experience imagery in a single modality, in multiple modalities or in combined modalities and the form of experience differs from one person to another.

Richardson (1969) separated mental imagery into four types: eidetic imagery, after-imagery, memory imagery and imagination imagery. Eidetic imagery is a form of percept-like imagery, near photographic in its form; after-imagery is the remnant of sensory stimulation; and memory imagery is an imperfect representation of something existing in reality. The fourth type, imagination imagery, is a mental representation of something imaginary, having no personal or particular references. Because imagination imagery results in the creation of something new, it is the springboard for creativity in humans. While a memory image recreates in one's mind the perception of the hammer one uses each day, an imagination image creates an imaginary hammer with a solid gold head and an ivory handle. Therefore, imagination imagery can create what was never present.

Though Richardson separated mental imagery into four types, he noted that the classification is somewhat arbitrary in that the four types share many characteristics. The main way in which they differ is along the dimension of vividness and controllability (Richardson, 1969). Imagination imagery is highly vivid and highly autonomous, following its own course independent of the experiencer's will. Khatena (1976a) found that individuals who have moderate, as opposed to high, control of their imagery obtained higher originality scores on a test of original verbal image production (autonomy of imagery level differences significant at $p<.01$). Also Khatena (1975) found that the more creative individuals perceive themselves, the more autonomous and the more vivid is their imagery ($n=107$, $p<.05$).

Imagination imagery is also characterized by its brief duration, lasting from less than a second to a few minutes.

It often changes shape and size, one image succeeding another in rapid succession (Richardson, 1969). It is further characterized by its novelty, clarity of detail and substantiality. Although imagination imagery is not necessarily effective in the reproduction of reality, it is useful in the creative process because it can "liberate us from a punctilious reproduction of reality and introduce something new" (Arieti, 1976, p. 48). Always in movement, always becoming, images rapidly associate with one another. It is this free association of imagery constantly at work in the transliminal mind which is believed to lead to creation (Arieti, 1976; Rugg, 1963).

Several different conditions antecede the experiencing of imagination imagery. These range from the hypnagogic state to a hallucinogenic drug state, from sleep deprivation state to a meditation state. These various antecedent conditions, though otherwise different, share two common characteristics: they all have a degree of conscious awareness and a reduction in sensory stimulation (Richardson, 1969). These two characteristics seem to be the necessary ones for experiencing imagination imagery.

Some research has investigated the relationship between creativity and those conditions which enhance imagination imagery. Number, clarity and complexity of visual images experienced during perceptual isolation correlated positively with scores on Guilford's test on divergent thinking (Kubansky, 1961). In another study, Harman et al. (1966) found that mescaline enhanced the capacity for visual imagery and fantasy, a condition which seems to be important in creative problem solving (Miller Obj. Visualization Test, $n=27$, $p<.02$; Witkin Embedded Figure Test, $n=14$, $p<.01$; fluency scale of Purdue Creativity Test, $n=18$, $p<.02$).

In work at the Menninger Foundation, Green, Green and Walters (1970) have investigated the possibility of psychophysiological training for creativity. Their rationale for such a pursuit is based upon 1) a link between alpha and theta rhythms in the brain wave and reverie and hypnagogic imagery and 2) a link between reverie and hypnagogic imagery and creativity. Reverie, by their definition, is "a state of inward -turned abstract attention or internal scanning" (Green et al., 1970, p. 10) and thus resembles the transliminal mind which Rugg (1963) felt was so important. Using research of their own as well as studies by Kasamatsu and Hirai (1963) on Zen masters and by Anand, Chhina and Singh (1961) on Yoga masters, Green et al. have evidence that low-frequency alpha and theta rhythms are present in the reverie state and in the production of hypnagogic-like images. (Their use of the term "hypnagogic-like images" corresponds to the term "imagination imagery" used through this paper.) Green et al. confirm the relationship between reverie-and-hypnagogic imagery and creativity through the many anecdotes of creative people including Kekulé, Poincaré, Robert Louis Stevenson and A. E. Houseman in which the insight necessary to creativity came through images gained in some sort of reverie state.

Green et al. believed that the research evidence and anecdotal accounts establishing the relationship between alpha/theta waves, reverie/hypnagogic-like imagery and creativity justify research on training subjects.

> ...in the voluntary control of certain existential states whose central-nervous-system correlates are revealed by the presence of low-frequency alpha and theta rhythms in the EEG record...so that those states of awareness that are associated with conscious control of alpha and theta rhythms in the brain can be studied. (Green et al., 1970, p. 17).

Their projected research involves the use of biofeedback techniques which alerts subjects to their production of low-frequency alpha and theta waves, and which enhances their awareness of imagination imagery by not allowing their attention to fall below the threshold of consciousness.

Although this projected research into psychophysiological training for creativity has not been completed at the time of publication, Green et al. had successfully used biofeedback training to reduce muscle tension, to increase body temperature, and to increase percentage of alpha rhythms. One of their psychological findings during this biofeedback training was that "hypnagogic and dream-like images during a state of semiconscious reverie have been observed by a number of experimental subjects in conjunction with periods of theta rhythm and low-frequency alpha waves" (p. 10). They further note that some sort of aid seems to be necessary in order to keep subjects' attention above the threshold of consciousness. One simple technique for accomplishing this is to simply have the subjects keep one arm in a vertical position, balanced on the elbow so that the arm falls if one's attention falls below threshold level and thereby brings the subject's attention back to an alert level (Tart, 1969).

While Green et al. used biofeedback techniques to achieve changes in the physiological state of subjects, other techniques which induce physiological changes have also been investigated. Techniques such as progressive relaxation, hypnosis, zen, yoga, transcendental meditation and autogenic training have been found to elicit the relaxation response, "an integrated central nervous system reaction"

(Benson, Beary & Carol, 1974, p. 37). Physiological changes which occur during these different techniques to various degrees include decreased oxygen consumption, respiratory rate, heart rate, muscle tension, increased skin resistance and alpha wave activity (Benson et al., 1974). Such techniques can be seen to be quite similar to the aforementioned biofeedback techniques in that they may enhance the experiencing of imagination imagery through relaxation of the body (reduced sensory input) and increase in alpha wave activity (reverie state of concentrated attention). One question which needs to be addressed is, what is the relationship between different techniques and imaging ability?

Conclusions

Finding techniques which are appropriate to a school setting is an important educational problem. Clearly hallucinogenic drugs, sleep deprivation and sensory deprivation are not appropriate. Biofeedback would be one possibility, but the cost of equipment and knowledgeable technicians would most likely be prohibitive for most schools. On the other hand, relaxation techniques would seem to be both easy to incorporate and inexpensive to use in a school setting. Coupling relaxation exercises with imagery exercises, fantasy exercises, and centering exercises would be other feasible possibilities in school settings. Since there do appear to be feasible techniques to use in school settings, the relationship between these techniques and imaging ability should be investigated. As can be seen from the literature, imagery does seem to play an important role in the creativity process. It would seem reasonable to include imagery-enhancing strategies in creativity training. This presents a problem as techniques purported to enhance or increase imaging ability are lacking (Hull & Render, 1982). This is an area requiring further investigation. Presently, however, the data suggest that the use of such strategies as guided fantasy journeys could hold some promise as methods to enhance creative production and could be included in creativity training programs. It appears obvious that focus on divergent thinking alone as the essence of the creative process may ignore some of the heretofore more elusive qualities of creativity.

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Une revue du rôle de l'image dans le procédé créatif.
Mansfield, Busse et Krepelka (1978) ont passé en revue différents programmes dont le but était d'accroitre la production créative. Les conclusions qui découlent de cet examen suggèrent que les programmes créatifs disponibles à l'heure actuelle nçessitant la pensée divergente d'un point de vue historique est considérée comme l'essence de la pensée créatrice. Le problème se pose mieux dans le libellé d'une question, c'est-à-dire, la pensée divergente est-elle l'essence de la pensée créatrice? Ou pour l'exprimer d'une autre manière, y a-t-il transfert de l'aptitude de bien faire dans les tâches nécessitant la pensé divergente aux situations "vraies" de la vie où la pensée créatrice est essentielle pour résoudre les problèmes? Nous ne savons pas, avec certitude, que la facilité de produire une pensée divergente est le résultat de la pensée créatrice à part la performance des mesures créatives.

Ce qui précède ne suggère en aucun cas que l'entrainement de la pensée divergente n'est pas productive. Il est possible, cependant, que la créativité se trouve limitée par la

grande attention que l'on porte à cette composante du processus créatif. Des rapports rédigés par des individus créatifs suggèrent que l'état de conscience semble jouer un rôle majeur dans l'établlissement d'une solution du problème de la créativité (Krippner, Dreistadt, Hubbard, 1972). En fait, on y suggère que plusieurs variables relatives au domaine de la psychologie transpersonnelle mériteraient de retenir notre attention dans la compréhension du processus de la créativité (Bender, 1982). Cet article examine les implications d'une de ces variables (transpersonnelle) du processus créatif ayant rapport à la conscience, c'est-à-dire, le rôle de l'image.

Ein Überblick über die Funktion der Vostellung im schöpferischen Prozess.

Mansfield, Busse und Krepelka (1978) rexzensierten verschiedene Programme, die versuchen, schöpfeerische Produktion zu steigern. Die Ergebnisse dieser Rezenion deuten an, daß vorhandene Programme für kreative Prozesse dazu neigen, die Leistung von Studenten auf Arbeiten, die divergentes Denken verlangen, erhöhen. Es ergibt sich folglich ein Problem, da divergentes Denken seit jeher als das Wesentliche von schöpferischem Denken angesehen wurde. Das Problem drückt sich am besten in der Frage aus, ob divergentes Denken das Wesentliche vom schöpferischen Denken darstellt? Oder, um es anders zu formulieren, gibt es einen Transfer von der Fähigkeit, gute Leistung in Aufgaben zu erzielen, die divergentes Denken verlangen, auf Alltagssituationen, in denen schöpferisches Denken in der Lösung von Problemen unentbehrlich ist? Wir wissen nicht mit genauer Sicherheit, daß die Erleichterung von divergenter Gedankenerzeugung in schöpferischer Funktionsfähigkeit endet, abgesehen von der Funktionsfähigkeit auf Maßstäbe der Schöpferkraft. Das soll nicht darauf hindeuten, daß das Einüben von divergentem Denken nicht produktiv ist. Es ist doch möglich, daß die Kreativität durch ein hohes Maß von Aufmerksamkeit begrenzt wird, die diesem Bestandteil des schöpferischen Vorgangs zuteil wird. Selbstberichte von schöpferischen Personenn lassen vermuten, daß Bewußtseinszusstände eine führende Rolle in schöpferischer Problemlösung spielen (Krippner, Dreisstadt und Hubbard, 1972). Es wird tatsächlich vorgeschlagen, daß viele Variblen im Bereich der transpersonalen Psychologie unsere Aufmerksamkeit verdienen könnten, wenn wir versuchten, den schöpfersichen Prozess zu verstehen (Render, 1982). Diese wissenschaftliche Arbeit behandelt die Implikationen eines dieser Variablen in Schöpfungsprozeß nämlich die Rolle von Vorstellung.

Un repaso al papel de la imaginación en el proceso creativo.

Mansfield, Busse y Krepelka (1978) revisaron varios programas que pretendieron incrementar la producción creativa. Las conclusiones derivadas de la revisión, sugieren que

programas creativos aprovechables tienden a incrementar el desempeño de los estudiantes en las diferentes tareas del pensamiento. Un problema presentado así mismo como pensamiento divergente, históricamente, ha sido visto como la esencia del pensamiento creativo. El problema es planteado mejor en términos de una pregunta, la cual es: ¿Es el pensamiento divergente la esencia del pensamiento creativo? O preguntar en otra forma: ¿Hay transferencia del estar capacitado para desempeñarse bien en tareas del pensamiento divergente a situaciones de la vida real, donde el pensamiento creativo es esencial en la solución de los problemas? Nosotros, justamente, no conocemos con ningún grado de corteza que la facilitación de la producción del pensamiento divergente resulta en el desempeño creativo fuera del desempeño en medidas creativas. Lo precedente no es mencionado para sugerir que el adiestramiento del pensamiento divergente es improductivo. Es posible, sin embargo, que la creatividad está siendo limitada por la gran atención de este componente al proceso creativo. La auto- información de individuos creativos sugiere que los estados de conciencia parecen desempeñar un mayor papel en la solución creativa de problemas (Krippner, Dreistadt y Hubbard, 1972). De hecho, se sugiere que muchas variables dentro del area de la psicología transpersonal pueden ser dignas de atención en la comprensión del proceso creativo (Render, 1983). Este escrito discute las implicaciones de una de estas variables de conciencia transpersonal relatadas en el proceso creativo, el cual es, el papel de la imaginación.

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Suggestopedia Applied to an English-as-a-Second-Language Setting

Kerry Klockner

Abstract. In this experimental class, Suggestopedia was used to teach English-as-a-Second Language (ESL) to Indochinese refugees from SE Asia. The state of Washington has received over 30,000 refugees, most of whom know very little if anything about Western language or ways. The experimental class was composed of preliterate refugees who had no familiarity with English. Within ten weeks, the class was able to read basic employment applications, write numbers, exchange common English phrases regarding health, food, time and travel, and respond to emergencies. The rate of learning had been increased fivefold on the average, and even more for the elderly students. It suggests that Suggestopedia may be a very important tool in cross-cultural education with diverse age groups and in the development of new motor as well as linguistic skills.

Background on Indochinese Refugees

Washington state has the third largest population of Indochinese refugees in the United States (Bureau of Refugee Assistance, 1982). Half of that population resides in the Seattle area, and half of that population arrived only two to three years ago. Some Indochinese refugees began arriving in Seattle in 1975. These were generally well-educated, formerly highly-positioned individuals who had become exiles of their homelands. The majority were Vietnamese. Often they could speak French. Some had previous contact with Americans and were familiar with elements of Western culture. When they arrived, they were hospitably welcomed by many Americans offering friendship and resources.

In 1979, a major wave of Indochinese refugees came to Seattle. These new refugees were very different from the earlier arrivals, and they entered an area whose resources were becoming dramatically curtailed. In general, the overall educational level of these refugees had decreased, the contact with Western society was much more limited, the diversity of original countries had increased sixfold, and the diversity of native languages had increased ninefold. Now the refugees were Cambodian, Laotian, Vietnamese, Chinese, Hmong and Mien. The latter two, which were arriving in large numbers, had no written language and virtually no contact with Western or urban ways.

The United States was an alien world. Electricity, fundamental in our culture, was an unfamiliar luxury. Many a sponsor came home to find electric appliances destroyed or in pieces. Frequently small fires were started in homes as refugees tried to cook their meat by placing it directly on the burner. Limited familiarity with the uses of electricity was but one manifestation of a general unfamiliarity with Western ways. It also meant an unfamiliarity with our laws, especially regarding clamming, fishing and slaughtering regulations; basic approaches to securing food. It meant unfamiliarity with our values: having to learn, for example, that if when driving a car one hit another, it was inappropriate and illegal to simply drive away. Cultural habits such as being punctual and arriving at classes or appointments had to be learned, and many classes working with new arrivals found themselves interrupted as students came to class at any time during the session. Fundamental social customs such as marriage differed dramatically. When twelve- and thirteen-year-old married couples went to elementary and junior high, they found themselves singled out by students and teachers alike. The differences were further reflected in language. The English language not only contained new sounds and logics, but it did not correlate with the structuring of the Indochinese languages. An example is the way our language fails to provide descriptors for entitling people: Mr., Mrs., Dr., Uncle, do not make any reference to age, prestige, geographic location, or standing in the community.

English-as-a-Second Language-Program in Washington

Each of these cultural differences impacted on the operations of the language classroom. Many lessons focused not only on learning English, but how to function in this culture; such as how one calls the police and that the police will help anyone in need, and implementing the multiple social proprieties of this land, such as coming to class at a given time or calling in when ill.

The language classes or English-as-a-Second-Language Programs (ESL) were offered through the community college system, private schools, vocational institutes and by volunteer groups and individuals. The schools varied in the programs offered; and the refugees often went from one school to the next, trying to learn as much English as they could. The majority of refugees had very little schooling (Bureau of Refugee Assistance, 1982). School was considered very important in most of their cultures. A teacher was a very highly respected person; above the status of a doctor in our own culture. From 1975 to 1981, all refugees could attend ESL classes for as long as was necessary for them to learn English.

In September of 1981, the open-ended schooling program stopped. Cutbacks in funding curtailed the number of hours a refugee could attend school. Refugees could now receive only 540 hours, nearly two years' worth, of free English instruction. The differing schools scheduled this time so refugees had classes only two or three times a week or 8-12 hours per week. Additionally, funding for support services such as transportation and daycare was cut.

Experienced teachers lobbied for more funding as they had found that most of the new wave of refugees needed 540 hours simply to be competent with such fundamentals as recognizing their own name spoken with English accents, saying their address, and responding to simple greetings and courtesies. The elderly, teachers predicted, would find it very hard to learn this limited survival English within such a shortened time frame. Teachers projected that few refugees would leave their classes with enough English to be employed or become self-sufficient (Washington State Advisory Meeting, 1981).

This low estimated rate of learning was attributed to numerous factors including some of the aforementioned cultural differences, low levels of self-confidence, the continual pervading sense of being "overwhelmed," and some basic instructional difficulties in implementing the ESL programs. In a single ESL class, there could be anywhere from twenty to more than forty students, not all of whom would be there every day. Some students might know how to write the alphabet, but others would not even know how to hold a pen. Often classes could not be separated by ethnic or language groups, and occasionally this brought together people who historically have long-term animosities with one another. Additionally, classrooms were not segregated by age. Students in a given class could range from 21 to 65 years of age. Since, in their own cultures, the elders are respected and their wisdom and abilities honored, the students had to be careful not to demonstrate that they learned more than the elders, to assure the maintenance of place and face. The teachers felt this inhibited class progress, as the elders were often much slower in learning English than the younger students.

Introducing Suggestopedia to ESL

To implement the suggestopedic methodology in this educational environment required adaptation of the method. ESL teachers are generally not versed in the native language(s); and even if translations were available, it would have to be delivered orally as many students are not literate in their own language(s). Placing confidence in Lozanov's statement that the suggestive practices must be adapted to culture, an experimental approach was implemented that built upon suggestopedic principles and constant reflection on the suggestive components of the class. It remained our intent to ease the learning process and to create the conditions for the joyous satisfaction of the thirst for knowledge. We assumed that a consequence of this intent would be the more rapid learning of the English language.

The basic of the actual teaching methodology used included the following:

- communicated emphasis on the ease with which one learns
- musically-paced presentation of all oral materials
- reduced repetition of new material
- daily unrepeated role-playing scenarios using new concepts and vocabulary
- display of new reading targets by posting them with appropriate pictures for one to two days (with no attention called to them) before introduction in a lesson; often other environmental aids were used, such as using time punch clocks, having access to actual physical items, etc.
- the teaching of a weekly limerick or rhyme combining the week's vocabulary

The classroom's atmosphere supported openness and confidence. The stress seemed reduced. Pragmatically, this was indicated by a reduction in the number and duration of breaks. The usual break every fifty minutes was stretched to one break every 70-75 minutes, with the students generally lingering in their seats, prepared to continue.

Equally important to the reorganization and restructuring of the class was the constant reflection on and correction of subtle suggestions and limiting assumptions being made by the teacher, by the format of the class, or both. All too often, lesson plans, assignments, or even teaching examples reinforced inhibiting learning principles of which a few of the most common were:

"Language is learned by drilling."
"You learn by making mistakes."
"Learning is difficult."
"You can only remember so much at a time."
"It's going to be hard to learn English."
"English is a hard language to learn, and even harder to read or write."
"It takes a long time to learn how to do something right."
"If it's easy, you couldn't really have done it."
"The older you are, the harder it is to learn."

We quickly found that substituting the word "teaching" where "learning" was used quickly identified a new set of assumptions which the teacher often acted upon as though they were facts rather than suggestions.

To implement this study, Crystal Dawn Ashley of Washington International School of English, director of classes and a teacher of ESL for eight years, was trained by the author in suggestopedic practices. Her original training in ESL had been in the audio-lingual methods. She agreed to participate in this project on a "let's see as we go" basis. Her classes were monitored in a twofold fashion: The first was through the use of tape recordings of the actual classes coupled with weekly conferences to problem shoot issues relating to the suggestopedic process and to reflect on suggestopedic teaching approaches. The second monitoring process was random observation of the class by the author, Klockner, and observation of the ninth week classes by Nancy K. Casey, an ESL instructor who was completing her MA program in Teaching English-as-a-Second Language (TESL). Casey had observed Ashley during the previous year when she was not using Suggestopedia, and was familiar with preliterate ESL programs for refugees.

The students who participated in this class were randomly referred by the Washington State Department of Social and Health Services. This is standard procedure for all funded ESL programs. There was no specialized screening or pretest. The class had about 23 students. They ranged in ages from 21 to 65. The majority of these students were Cambodian, although some were Chinese and others Laotian.

During the quarter that we implemented the methodology in full, extra stress was placed on all Washington State refugees as the government attempted to set a date for the termination of financial assistance to refugees living in the United States longer than 18 months. Beginning January 1, each month was rumored to be the last time one could receive welfare, until finally the law set June as the last time anyone over 18 months from the date of arrival could receive refugee cash assistance. Many ESL teachers in the Seattle area found enrollment and participation to be a problem throughout this period. Attendance and participation in our experimental class was better than average, hence it was outstanding for this stressful period.

Before implementing the experimental approach, it was important to test the applicability of the baroque music with the Indochinese refugees. It was uncertain as to whether the music would enhance relaxation and learning or act as a distraction.

On November 9, 1981, baroque music (see Appendix A) was introduced to Ashley's fall class of Preliterate I students. The music played at a soft level at all times, and Ashley did not vary any other element of her teaching style. A response from the students was immediate. Ashley describes it as follows:

> The first difference I noted was the seeming "let down" in the atmosphere of class when the tape ran out. I found myself hurrying back to the rewind button to relieve the strange silence. After the first week, we made sure that the music was on the second side of the tape so she could just switch the tape over.
>
> Secondly, I noticed a great decrease in student chatter, their usual checking with each other, nervously, for comprehension. We could also work longer without breaks (Crystal D. Ashley, 1981).

We continued to use the music for the remaining six weeks of her fall ESL class. We did not introduce any other components of the suggestopedic process. We simply played the music from the beginning of the class to its end. The students seemed to enjoy it. Ashley remarked that they seemed much more energetic when class adjourned. We could not correlate the learning accomplishments of this class to the music as the class had begun four weeks earlier, but Ashley felt that the music did contribute to the learning progress which her students made.

As there had been no harm from the music, Ashley agreed to experiment with the broader principles of the suggestopedic method for the winter quarter of 1982. A new class of Preliterate I students would begin in February. This class started with 23 students, of which 15 were both first-time attenders of an ESL class and stayed to complete the entire course. During the following discussion, mention of the class refers to only these fifteen students. The other class members had either previously been enrolled in a Prelit I class or did not remain in the program. Some left due to health reasons, others had conflicts in finding child care for the hours they were in class, and some left due to termination as a result of having achieved 540 hours. The total number of students enrolled remained at 23 as other students were admitted to the program at various points in the middle. This is a common occurrence in refugee ESL classes.

The background of these students is listed in Table 1. Sixty percent were literate in their own language, but nobody had more than a ninth-grade education. Half of the class was under 35, two were 60 and above. However, by Indochinese standards, six were over 45 and thus would be considered "elderly." Six members had medical problems which continued throughout the quarter. Over half the students spoke two Indochinese languages, but only one had any previous English-speaking ability.

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Table 1

Background of ESL Students

Nationality	Age	Sex	Education	Former Occupation	Former Languages	Literate in own Language	Health
Chin. Camb.	51	F	never been in school	seller	Chin./Camb.	no	Good
Cambodian	35	M	5th grade	welder of cans	Chin./Camb.	yes	Needs glasses
Cambodian	38	F	5th grade	tailor	Chin./Camb.	yes	Needs dental care
Cambodian	60	M	no school	shopkeeper	Chin./Camb.	no	Bad shoulder
Cambodian	57	M	8th grade	farmer	Cambodian	yes	Needs glasses bad leg
Cambodian	35	F	no school	seller	Cambodian	no	Good
Chin. Camb.	48	M	9th grade in Chinese also Camb. school	restaurant owner	Chin./Camb.	yes	Good
Chin. Camb.	30	F	6th grade	homekeeper	Camb./Chin. Vietnamese	yes	Pregnant
Vietnamese	26	F	no school	housewife	Chin./V.	no	Good
Cambodian	45	F	8th grade	farmer	Cambodian	yes	Needs glasses dental care
Vietnamese	65	M	4 years	shopkeeper owner/food store	Chin./V.	yes	Good
Cambodian	25	F	4th grade	housewife some Eng.	Cambodian	yes	Good
Laotian	28	F	no school	farmer	Laotian	no	Good
Laotian	28	F	3 years	farmer	Laotian	yes	Good
Laotian	21	M	no school	farmer	Laotian	no	Good

In reviewing our approach to the adapted suggestopedic methodology, Ashley and I reflected on the approaches used in other suggestopedia classes. We decided that it was inappropriate to ask the students to adopt new names and identities since the retention of their own names was crucial to their cultural adjustment. We furthermore assessed that role-playing based on an exploration of a new land might evoke unnecessary and distressful memories. We decided to try more relevant themes based on daily life experiences common to living in the United States, and to use scenes that have a pleasant or humorous emotional content. These plots were drafted rather quickly, and failed to have a great deal of continuity from one to the other, but they did build upon the criteria established in the Washington State ESL Benchmark system (Washington State Superintendent, 1983), and upon literacy concepts of learning letters, syntax and words. The plots used included scenes of a patient going to a doctor with everything wrong, of shopping in a grocery store, of going on a camping trip and having tricks played on you by your children. Some of the stories came from material prepared by the Laubach Literacy program. This material was used because of its ready accessibility, and the ease in which it fit the visual-rhythmic aspects of the suggestopedic approach. Ashley would post Laubauch letter-pictures and their corresponding words as visual displays around the room for several days before introducing them.

The development of curriculum was a demanding component of our work. Ashley found it entailed a great deal more of her attention for the students were learning so much more each day. Toward the end of her fall pre-suggestopedic quarter, a sample lesson plan used by Ashley included the following:

Pre-Suggestopedia Plan A		Pre-Suggestopedia Plan B
- review clock	or	- review of body parts
- five new capital letters		- spelling aloud
- begin reading a new story		- weather words

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Her suggestopedic lesson plans from a typical day towards the end of Winter quarter went more like this:

- occupations: identify from 12 pictures
- dictation of numbers, from 1 to 1000
- spelling of weekdays
- one role-playing situation with 15 or more new kinship terms
- marital status terms
- circling and checking exercise, conducted on verbal cue
- 5 pairs of opposites-adjectives

- before and after with the situation being clothing articles (shoe-sock, etc.)
- singing and writing of alphabet by memory
- short jingle or limerick (see Appendix E)
- read to finish one new story (Xeroxed)

In order to make this constant development of curriculum less taxing, we organized and collected the expanded lessons into a looseleaf manual so they could easily be extended, improved, and adjusted for other Preliterate ESL classes. We also noted ideas as they came and kept them as resources on file cards, for all too often, a week's worth of lesson planning would be accomplished by the end of Monday's class--and sometimes it would be covered after only a few hours of Monday's class.

Apart from specific curriculum considerations, there were other changes. As we knew we could not speak the native languages, we realized it would be very difficult to de-suggest that learning English was hard. So instead of directly approaching the problem, we attempted to establish examples of how easy English was to learn and how much the students knew. We taught the concept of "easy." Ashley made a deliberate point of telling her students that this was easy and showing them how much they learned. She would completely fill the blackboard at those times when she was calling forth lists of information or knowledge in English from them, and would turn back to them and remind them how much they knew and how easy it had been. When they had been introduced to new material with the suggestopedic processes, she had the students do quick reviews and then would quickly remind them of how much they had accomplished in a quick and easy manner.

She found that this reminding was important for herself as well as for her students, as it stretched everybody's awareness and expectations of what students could do. The following example is included to more clearly illustrate how deeply we doubt and confirm those doubts as fact by using inconsistent logic. It outlines a situation when Ashley introduced the concepts of "before" and "after." Teaching "before" and "after" to the Indochinese is very difficult, normally, for the concept is already understood by the learners. However, in our language we sequentially reverse incidents, mentioning first the event and then later the reference, whether before or after, whereas, in the learner's language it is time sequential rather than a literal translation. For example, we say, "Rinse your clothes after washing" but the literal translation from the learner's language would be, "Wash after rinse your clothes."

In the following words, Ashley describes her process:

> I decided to try speaking in the rhythm with the 4/4 musical beat since I'd found this lesson to be a problematic one with other groups. The pacing would include four-second pauses after my speech.
>
> I demonstrated 'before' with student actions, letters and numbers on the chalkboard. I duplicated the procedure with 'after,' on a separate chalkboard. I solicited individual responses to check comprehension, and wrote the words 'after' and 'before' only once on each respective chalkboard.
>
> Everything presented was synchronized with the music (which plays continuously through the class), with frequent pauses, and took approximately 15 minutes.
>
> I then gave each of the 24 students a page of numbers, with two columns of 'after' problems and two of 'before.' They were to write the number coming before or after the number shown; each page had 40 questions. It was a paper I anticipated at least 5 minutes to complete for most, and 15 minutes--or non-completion at all--for others.
>
> The first paper came back in only one minute, and all were in less than five. I recorded only two mistakes out of 24 papers, or 97% correct of 960 questions.
>
> The next day I reviewed the concept with the alphabet, and handed out an identical paper, but with the ABC's. I recorded six mistakes out of 24 papers, with the exception of one, a better-than-average student, with 22 mistakes. Even the students who were usually slowest had superior papers and finished quickly (Crystal D. Ashley, 1981).

But in discussing this lesson with me, she was initially upset at the "failure" of her class to do "well" on the follow-up day test. The approach had not succeeded in making this difficult lesson "easy." In questioning other ESL teachers regarding this lesson, the author was told by the Director of ESL Studies, Griffin College, that this lesson often takes five days to achieve basic comprehension and it would be expected that the learners would take 15 to 20 minutes to complete the paper task and that they would make an average of 20 to 30 errors, or be 40-50 percent correct. It was important for the author to point out that Ashley's expectations of her students had expanded greatly from last fall, and that most likely the student who had missed so many had been under other pressures.

Another teaching change which we instituted addressed the issue of correcting mistakes. It seemed reasonable to assume that if the authority of the teacher was to be used to draw out the capacity of the students, it would be contradictory for that authority to be used in pointing out to the students how many mistakes were made, and how inaccurate or poorly they spoke English. At the same time, it was a concern that students would hear poorly pronounced English from one another, and not learn proper pronunciation. We determined that the most appropriate course was to de-emphasize mistakes, and to emphasize and reinforce efforts to speak/communicate in English. Ashley, in her creative and flexible style, strove to encourage responsiveness from her students. She utilized dramatic facial features if choral responses were unclear to indicate trouble in understanding. In individual responses, she warmly responded to the efforts made at speaking English, and if the words were mispronounced (often 's' endings are very difficult for the Indochinese), she would ask another person to respond to a new question which utilized either the same word in a different context, or utilized the sound mispronounced. She strove to choose a person who would respond correctly, yet she never commented or indicated to the first person that an error had been made. In this manner, peer modelling and correction developed.

Students also became more willing to express misunderstanding. This surprised Ashley as she had become accustomed to a certain level of passivity. She encouraged this response initially by speaking to her students occasionally in Farsi, the national language of Afghanistan and Iran. She would start a paragraph in Farsi and keep it up in a teasing fashion until one or more students had responded with "Please speak slowly" or "I don't understand."

The latter technique provides an example of another feature of the suggestopedic model which changed some of the teaching approaches and attitudes: that of deliberate frivolity in the classroom. At least once a week, the students were asked to memorize a limerick or a nonsense poem which Ashley had prepared. This poem was presented, as was all oral material, paced to the music with pauses, and consisted of completed target vocabulary. The students would memorize it and recite it in chorus with great enthusiasm, after which it would be unrepeated. Often, Ashley would present this material before a break, and she would hear students murmuring it to themselves later. The use of fun occurred often during the usual lesson plan with clock relays, team spelling bees, chalkboard games and drama. The students realized that an ESL class could offer a good deal of merriment as well as accomplishment.

A final fundamental change was an attempt to limit or eliminate repetitive drilling. It was felt that drilling focused attention on the difficulty of English. This was perhaps one of the hardest changes for Ashley, personally, since her ESL training held modeling and repetition implemented by drills to be crucial in ESL. This teaching habit took conscientious self-observation to change, and it was only when Ashley saw her students greatly increasing their retention without drills that it became natural for her to avoid routine repetitions. The other aid in breaking this habit was the development of teaching aids to substitute for the times when drilling would be used.

Upon completion of our ten-week quarter on April 9, 1982, Ashley's class had not only completed with great fluency and ease the state's Preliterate I, but the expanded program outlined by Griffin College (Calloway, 1981) which extended Level One achievements to include such things as using several phrases to tell time, recognizing and being able to print letters upon hearing them spoken in words, ability not only to recognize monies but also to ask and count change, compounding actions verbs (doesn't watch TV) and the ability to ask and respond to questions using who, when, where, what, how much, how many. Seven individuals accomplished all 37 objectives perfectly and eight had five or fewer aural, oral or literacy objectives unmet. Fully two-thirds of the Preliterate II Objectives were being used. The understanding of the material was demonstrated daily in the class, but tests were administered intermittently throughout the quarter and at the conclusion to assure retention of the material. The tests consisted of asking a student to complete a given task alone within a reasonable period of time. An example would be responding in English to the teacher's dramatization of hurt on the body, to measure comprehension and use of language. Literacy tests entailed reading a story and responding to questions, or receiving a random listing of letters or numbers from 1-100 and being asked to identify the letter of number which precedes or follows it.

In this test class, the rate of learning had increased nearly five-fold for the class as a total unit, and substantially more than that for the six class members who were over 45 years. Two of these elders were initially preliterate in their own language; and by the end of the quarter, they were able to read basic employment application forms in English, as well as write numbers and recognize common traffic and emergency words. In only 90 classroom hours, the adults participating in this suggestopedic classroom had accomplished what experienced, qualified ESL teachers find to be achieved, normally, after 540 hours or more of classroom attendance; yet, the experiment did not replicate the rate of learning achieved in other suggestopedic learning environments.

Aside from the obvious rapid increase in language skills, Ashley and Casey observed some notable differences in the classroom. These were different from any Preliterate I or II group which either had observed or worked with in the past. Casey described these changes in the following words:

> Class atmosphere: relaxed; the students and the teacher are obviously enjoying themselves.
>
> Volunteerism: the students enthusiastically volunteer in conversation. "Usually in Preliterate classes, the teacher has to 'stand on her head' to get conversation or any reaction."
>
> Highly interactive: normally, a class is restricted to single words or memorized phrases repeated upon the issuance of a given cue. This class could compose a simple sentence and would do so willingly, i.e., "demonstrated a higher level of oral ability (a P-I class showing P-II to B-I skills)."
>
> Literacy skills: the reading/writing ability very high when compared to other P-1 classes; much closer to P-2 or B-1. Interest: there was a lack of murmuring and a lack of silence. Each student visibly showed interest. There was no more blankly sitting. Additionally, the students seem unwilling to leave at breaks, so breaks have been adjusted from having one every 50 minutes, to having one every 70 minutes.
>
> Pacing: the presentation of the material seems to proceed at a leisurely rate; "the sense of being rushed to fit it all in no longer seems appropriate, even though time seems to be going faster." (Nancy Casey, 1982)

Some of these changes may be attributed to the shift made in Ashley's teaching style, transitioning from a nearly audio-lingual approach to the more humanistic philosophy intrinsic in the Suggestopedic methodology.

Perhaps equally important to the above are the concluding comments made by the ESL instructor, Ashley:

> "The significance of suggestopedia to me, beyond the accelerated progress and retention in students, is its dramatic positive impact on their self-images. From the outset, one could hardly find a more anxious, depressed, shocked and limited-feeling group of students, yet within a few weeks in the suggestopedic environment, these students bounded with confidence

in class. Though they had previously been convinced that English would be hard, they came to believe it was easy."

Conclusions

In conclusion, it is important to note several things. The suggestopedic process was adapted and used in a cross-cultural learning environment where the learners were unfamiliar with Western language, Western patterns and Western learning pedagogies. It appaently remained conducive for learners to enjoy the acquisition of knowledge. A great deal of learning took place and the students were capable of succeeding regardless of their age. The use of the baroque music contributed to the relaxed atmosphere in the class, even though it did not carry the peaceful connotations which Westerners associate with it.

Obviously, the testing of the suggestopedic approach in one classroom setting is insufficient to claim its effectiveness. It does, however, raise a serious possibility of systematically improving the learning abilities of students by becoming more mindful of the use of suggestive elements in the teaching-learning environment, as well as possibly changing problematic self-images in many learning areas. The continuation of further inquiry and research in this area is recommended.

It would be my recommendation that future research with the Indochinese refugees be directed toward enhancing the mastery of more technically focused vocabulary, such as computer phrases and terms, medical language, or automobile repair. Such research would not only aid in clarifying the parameters and applications of Suggestopedia, but also directly assist the refugees in developing marketable skills. Many ESL instructors consider these languages very difficult to learn, but if Suggestopedic approaches could be used successfully, the students would be placed in situations where they could continue being successful as they communicate with other English speakers with a limited, specialized English language.

References

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Callaway, D. (1981). Griffin College Expanded ESL Goals.

Washington Literacy Council, 107 Cherry St., Seattle WA, Frank Laubauch.

Washington State Advisory Committee Meeting, October and September 1981.

Washington State Superintendent of Public Instruction. (1981).

Washington State ESL Master Plan. Revised 1983.

Appendix A
Music

Selections for our tapes were compiled from:

Bach, J. S.
  Largo from Concerto in G Minor for Flute & Strings. Bach and Telemann Flute Concertos, Columbia Records.
  Aria. The Goldberg Variations, Saga Records.
  Largo from Harpsichord Concerto in F Minor. Greatest Hits of 1720, Columbia Records.
  Largo from Solo Harpsichord Concerto in G Minor. 6 Concerti after Vivaldi, Vox Records.
  Largo from Solo Harpsichord Concerto in F Major. 6 Concerti after Vivaldi, Vox Records.

Corelli, A.
  Preludio and Sarabanda from Concerto No. 8 in E Minor. Corelli: 12 Concerti Grossi, op. 5, Vox Records.
  Preludio (Largo), Concerto No. 9 in A Major. Sarabanda, Concerto No. 10 in F Major, Corelli: 12 Concerti Grossi op. 5, Vox Records.

Handel, G.F.
  Largo from Concerto No. 2. Music for the Royal Fireworks, Angel Records.
  Largo from Concerto No. 3 in D. Music for the Royal Fireworks, Angel Records.
  Largo from Concerto No. 1 in B-flat Major, op. 3. Handel: Concerti Grossi op. 3, Vox Records.

Telemann, G.
  Largo from Double Fantasia in G Major for Harpsichord. Telemann: 6 Fantasias for Harpsichord, Philips Records.
  Largo from Concerto in G Major for Viola and String Orchestra. Telemann, Vox Records.

Vivaldi, A.
  Largo from "Winter." Four Seasons, Peerless Records.
  Largo from Concerto in D Major for Guitar and Strings. Baroque Guitar Concerti, Vox Records.
  Largo from Concerto in C Major for Mandolin, Strings and Harpsichord.
  Largo from Concerto in D Minor for Viola D'Amore, Strings and Harpsichord.
  Largo from Flute Concerto No. 4 in G Major. Vivaldi: 6 Flute Concerti op. 10, Vox Records.

* * *

La suggestopédie appliquée dans le contexte de l'enseignement de l'anglais comme langue seconde.
Dans cette classe expérimentale, on a utilisé la suggestopédie pour enseigner l'anglais comme langue seconde (ESL) à des réfugiés indochinois de l'Asie du sud-est. L'état de Washington a accueilli plus de 30.000 réfugiés, dont la plupart connaissent très peu, sinon presque rien, des langues et des coutumes occidentales. La classe expérimentale comprenait des réfugiés "prélittrés" qui n'étaient pas familiers à l'anglais. En moins de dix semaines, la class pouvait lire les demandes d'emploi de base; écrire les chiffres; échanger les phrases anglaises communes se rapportant à la santé, à la nourriture, au temps et au voyage; et répondre dans les cas d'urgence. Le taux d'acquisition avait augmenté de cinq fois plus en moyenne, et chez les plus âges, l'etait même plus élevé. Cela suggére que la suggestopédie peut être un outil important de l'enseignement à différentes cultures, avec des groupes d'âge divers, et du développement d'un nouveau moteur aussi bien que des aptitudes linguistiques.

Suggestopädie wird in einem Rahmen von Englisch-als-zweiter- Sprache angewandt.
Suggestopädie wurde in dieser Versuchsklasse verwendet, um indochinesischen Flüchtlingen von Südostasien Englisch als zweiter Sprache (ESL) zu lehren. Über 30,000 Flüchtlinge wurden im Staat Washington aufgenommen, von denen die meisten wenig, wenn nur etwas, über die Sprachen oder Verfahrensweisen der westlichen Welt wissen. Die Versuchsklasse bestand aus Flüchtlingen, die des Lesens und Schreibens noch unkundig waren, und die mit Englisch nicht vertraut waren. In der Zeitspanne von 10 Wochen konnten die Teilnehmer einfache Bewerbungsformulare für eine Arbeitsstelle lesen; die Zahlen schreiben; allgemeine Englischsätze austauschen, die Gesundheit, das Essen, die Uhrzeit und Reisen betreffend und auf kritische Situationen reagieren. Die Lernquote lag bis zum Fünffachen über dem Durchschnitt, und unter den älteren Studenten auch noch mehr. Das läßt vermuten, daß Suggestopädie ein sehr wichtiges Instrument in kreuzkultureller Erziehung mit Gruppen von verschiedenem Alter und in der Entwicklung neuer Motor- so wie Sprachfähigkeiten sein könnte.

La sugestopedia aplicada al escenario del inglés como segunda lengua. En esta clase experimental, se usó la Sugestopedia para enseñar el inglés como segunda lengua (ESL) a refugiados indochinos del Sudeste de Asia. El Estado de Washington recibió más de 30,000 refugiados, la mayoría de los cuales conocián muy poco o nada a cerca de las lenguas occidentales. La clase experimental estuvo compuesta de

refugiados iletrados que no tenián familiaridad con el inglés. A las diez semanas la clase pudo leer aplicaciones básicas empleadas, escribir números, intercambiar frases comunes de inglés, aspectos tocantes a la salud, comida, tiempo y viajes, y responder a emergencias. La proporción del aprendizaje se ha quintiplicado en el promedio y aún más para los estudiantes mayores de edad. Esto sugiere que la Sugestopedia puede ser una importante herrramienta a través de la educación cultural en grupos de edades diversas y en el desarrollo de una nueva motor maña también como las habilidades linguísticas.

J. of the Society for Accelerative Learning and Teaching, 1984, 9(1)

A Proposal to Measure the Effects of Image-Streaming upon Intelligence, Performance and Proficiency

Win Wenger, Ph.D.

Abstract. Linking "polar-opposite sides of consciousness" together into single synthetic activities which integrate across the span of many structures or functions of brain appears to increase intelligence. When purely spontaneous imaging is linked together with describing-aloud as one "image- streaming" activity, improvements in intelligence and in many related proficiencies are soon observed. A case is argued for the ease and accessibility of image-streaming as a general tool for building human intelligence and proficiency. A general principle is suggested, of linking polar-opposite structures and functions of brain and/or mind into single synthetic activities, as a general means for increasing human intelligence and proficiency.

Scientific proof of the thesis that practice of "image-streaming" increases intelligence has not yet been established. This brief constitutes, in part, a request that the necessary formal institutional controlled-measurement studies be performed which will delineate that proof.

Informal observation consistently and repeatedly supports the thesis. Also, a reasonably strong argument can be made for the thesis in the following regards.

It is at least reasonable to propose that to link opposite sides of the brain, or opposite sides of consciousness, together in one activity drawing intensively upon both, engages and builds communications not only between those opposite poles but through regions in between. Even accepting that left/right brain lateralization may be more model/metaphor than neurological fact, the matter remains that:

1. Word-description of anything is an activity mostly centered in Broca's Speech Area and, to some extent, in Woernicke's Area, on the far left side of the cerebral cortex--and experientially is an activity at quite some remove from "ineffably sublime" experience generally regarded as right brain.
2. Spontaneous imagery, even more than conventional directed imagery, is a distinctively different kind of activity, mentally and neurologically, from word-description, whether or not spontaneous visualization is

literally centered in the opposite pole of the physical brain, the far right temporal lobe. Certainly it is an activity sufficiently differentiated from speech to span across many functions and structures in between.

Note: If tests verify that linking of these particular brain or mental "poles" together in single activities does indeed increase intelligence, this may also prove to be a particular example of a much more comprehensive principle of greater value. Many opposite poles of brain and mental activity can be sorted out and linked together in synthetic activities, spanning the whole in-between, as a general strategy and many methods for increasing intelligence. Suggestive that this may indeed be a more general, comprehensive principle: the cross-mapping of various kinds of concept upon patterns of movement as performed by the Genesa program within structures of plastic position markers described as "crystals." Reportedly, this program has significantly helped learning-disabled children in remedial programs in San Diego's public schools, and has been under study by Dr. Paul Torrance and the School of Education at the University of Georgia in Athens, Georgia.

Evidence gathered from several contexts, thus far mostly informed, does suggest that it is a general principle, that to link opposite poles of human mental or neurological functioning into synthetic single activities which span across many functions or structures in between, is an effective way to improve human brain and mental functioning and/or to increase intelligence.

3. Conjoining these two opposite poles, describing-in-words and spontaneous imagery, into one activity drawing intensively upon both, is achieved by describing-in-words the ongoing contents of spontaneous imagery. This is the activity we call "image-streaming."
4. Practiced exercise of neurological and/or mental circuitry improves the efficiency of that circuitry, as long demonstrated with children, rats and adult humans. Improving efficiency of key functioning areas of brain and mind which are central to many other functions, is developmental as demonstrated from Ramon y Cajal on through all the juvenile deprivation studies, and improves intelligence by any widely-accepted standard of measurement or definition.
5. Functionally and neurostructurally, spontaneous imaging appears to be closely associated with the pattern-recognizing faculties of mind and brain which are generally acknowledged to be our source of insight

and understanding. Improving conscious (verbal) communications with the spontaneous-imaging function, is thus expected to and is observed to consistently and profoundly improve insightfulness and understanding--far more immediately and strongly, it turns out, even than the observed improvements in intelligence.

6. The principle of description that the more one describes aloud while observing something, the more he discovers about what he is describing, is reflective of that descriptive activity drawing more and more aspects of what is described into the focus of conscious faculties.

   Psycholinguists, from Lev Vygotski and Basil Bernstein on, have long demonstrated the linguistic essence of attentive perception and observation. Such popular dicta as "To learn something, teach it!" also reflect the perception-building role of description and verbal language, as does the oft-encountered urging that people keep detailed diaries and journals to improve self-knowledge, and as does the recognition of writers as being more sensitive and observant than the generality. Proposed: that rather than being writers because they are more sensitive and observant, that they are more sensitive and observant because they are writers.

   Aloud-description in detail to an external focus such as recording onto blank tape or telling to a live listener, is demonstrably the strongest general use of the principle of description. Doing so with instantaneous electronic feedback through microphone and headset is even stronger, as are combinations of types of descriptive activity.
7. To exercise powers of observation, in the context of spontaneous imagery or in whatever other context, improves powers of observation and the faculties relating thereunto.
8. Command and fluency of language, with concomitant improvement in all faculties relating to use of language, demonstrably improve with such descriptive activity. Further, major powerful improvements result to the extent that:
   a. Trainee is guided to describe "meaningfully," i.e., in such a sensory-detailed word-picture way as to "force the utter reality of what he is describing into the experience of anyone listening."
   b. The trainee's own images, spontaneously or with encouragement, present him with experiences which increasingly challenge his ability to describe, forcing him to search for as-yet-unhabituated usages. This is the basis of the language-skills-develop-

ment program of Project Renaissance as presented in the unpublished text, Making Your Language a Very, Very Fine Bed of Sand.

9. Everyone, except possibly the nerve-blind, experiences spontaneous visualizations, usually unconsciously. Virtually everyone, even small children, can be made conscious of his or her own spontaneous visualizing activity, generating the contents for image-streaming description. Thousands have been successfully trained or self-trained in the image-streaming procedures as published in the Journal of the Society for Accelerative Teaching and Learning (1981) and in An Easy Way to Increase Your Intelligence (1980). In the latter, ten back-up procedures were also specified to assure that all trainees become able to generate "pictures" to describe; no one has yet gone through all ten procedures without generating "pictures" to describe. The Appendix of An Easy Way to Increase Your Intelligence, vol. I, contains a procedure for easily training children even as young as three years of age in image-streaming.

   Thus, image-streaming is a highly accessible, easily-used tool, for a wide range of people, for easily training skills and conditions of understanding, observation, creative insight, and intelligence. It is also inexpensive, requiring no special equipment other than blank tape and a cheap cassette recorder.

10. The image-streaming activity gives rise to many specific high-quality insights and understandings spontaneously. For many people, such specific high-quality insights and understandings begin emerging almost immediately, and apparently anyone who practices beyond a few hours begins experiencing them spontaneously. The incidence of these high-quality understandings increases rapidly with further practice. Such insights appear to be the natural concomitant of building better communications between the attentive-faculty-focusing verbal centers of the brain, through describing in words, and the pattern-grasping regions of the brain which appear to give rise to the spontaneous images being described.

    The procedures specified in Volume II of An Easy Way to Increase Your Intelligence, "Prometheus Unbound," (1983) forces emergence of many specific new high-quality insights and understandings immediately for virtually everyone, and the process can be directed to generate specific solutions to specific questions and problems at will.

Thus, it is apparent that:

1. Image-streaming is an accessible tool with which to build understanding, observational skills, creative insights and intelligence in oneself, as well as in particular persons, groups and classes, the public at large.
2. Image-streaming is an appropriate tool for this purpose, as defined not only by its ease and accessibility for a wide range of people, but by the comprehensive nature of its apparent benefits; the practical immediate utility of some of its benefits; its apparent efficiency and comparative inexpensiveness in producing those benefits; its apparent total harmlessness; and strong recreational value. It may also be argued to be highly appropriate vis-a-vis vis-a-vis certain dynamics and trends of history and of biological and cultural evolution.

Therefore, we herewith urge formal controlled institutional testing of image-streaming procedures, to immediately establish quantifications of its apparent benefits, and to test the thesis that image-streaming should be generally adopted as a universal tool to improve human faculties throughout society at large.

Tests can be by almost any reasonable measure of intelligence or IQ. Language proficiency tests, and even academic achievement tests are also expected to show performance gains from the practiced use of image-streaming. A very large number and range of readily-available standardized test instruments exist for the purpose, and almost every professional institution employs at least several of these already.

Indeed, we predict that virtually no professional test instrument measuring any human intellectual, neurological, aesthetic, or educational function will fail to show significant improvement following even as few as 20 hours of practice of image-streaming (spaced among sessions lasting from 10 minutes to an hour, as little as a half-hour apart to as much as two days apart). We further predict that most such instruments will show significant gains even after only 10 hours of such practice.

It is also interesting to note that image-streaming is only one of 150 methods for increasing intelligence which are cited in Taxonomies: 350 Methods and Approaches to Improve Teaching and Learning; 150 Methods and Approaches to Increase Human Intelligence. The implications of this datum should stir any thinking person.

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* * *

Une proposition pour mesurer les effets de la filtration des images sur l'intelligence, la performance et la compétence.
Le fair de relier "les pôles opposés de la conscience" à des activités synthétiques simples qui s'intègrent à la durée de plusieurs structures ou fonctions du cerveau semble augmenter l'intelligence. Quand une image purement spontanée est reliée à une description orale comme étant une activité de la "filtration d'images," des progrès dans l'intelligence et dans d'autres compétences s'y rapportant sont très vite notés. On discute le cas de l'aisance et de l'accessibilité du filtrage d'images comme un outil général pour la construction de l'intelligence humaine et de la compétence. On suggère un principe général, celui de relier les pôles opposés des structures et des fonctions du cerveau et/ou de l'esprit en des activités synthétiques simples, comme un moyen général d'accroître l'intelligence humaine et la compétence.

Ein Vorschlag, die Ergebnisse der Bildströmung auf Intelligenz, Leistung und Geschicklichkeit zu messen
Das Verbinden von "gegensätzlichen Seiten des Bewußseins" in einzelne synthetische Tätigkeiten, die den Abstand von vielen Strukturen oder Funktionen vereinen, scheint die Intelligenz zu erhöhen. Man sieht bald Verbesserungen in Intelligenz und in vielen verwandten Fähigkeiten, wenn ausschließlich spontane Vorstellung zusammen mit wahrnehmbarer Beschreibung als eine einzige "Bildströmungstätigkeit" zuzammengebunden wird. Der Bildströmung als ein allgemeines Instrument für den Aufbau von menschlicher Intelligenz und Geschicklichkeit wird Zeugnis abgelegt, weil sie einfach zu verwenden und zugänglich ist. Das Verbinden von gegensätzlichen Strukturen und Funktionen des Gehirns und/oder des Verstandes in einzelne synthetische Tätigkeiten, um die menschliche Intelligenz und Fähigkeit generell zu erhöhen, wird als allgemeines Prinzip vorgeschlagen.

Una proposición para medir los efectos del flujo de la imagen sobre la inteligencia, desempeño y destreza.

El fijar los "lados opuestos de la conciencia" en actividades sencillas sintéticas, las cuales se integran a traveés del momento de muchas estructuras o funciones del cerebro parece incrementar la inteligencia. Cuando puramente, la imaginación espontánea es ligada a la descripción en voz alta como una actividad de fluyo imaginativo, se observan prontamente progresos en la inteligencia y en destrezas relacionadas. Un caso es debatido para la facilidad y accesibilidad del flujo imaginativo como una herramienta general para formar la inteligencia y destreza humana. Un principio general es sugerido en el momento de estructuras opuestas y la función del cerebro y/o la mente en actividades sintéticas sencillas, como medios generales del incremento de la inteligencia humana y la habilidad.

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Invitational Education for the Gifted

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Abstract. The purpose of this paper is to introduce the reader to the concept of Invitational Education. Presented are four basic assumptions about people and, in particularly, students, who are the focal point of the concept. Also included are four levels of inviting/disinviting behavior which are believed to be displayed by teachers: intentionally disinviting, unintentionally disinviting, unintentionally inviting, and intentionally inviting. Each level is discussed with a process for becoming intentionally inviting included in the discussion of that level.

Gifted individuals, by their very nature, tend toward independence in their thought and behavior. They do not respond readily to such "doing to" processes as being motivated, directed, coerced, modified, manipulated, shaped, reinforced or bribed. This may be why teaching theories and approaches which rely on a "doing to" process are often less than successful with gifted and talented students.

The purpose of this paper is to present a "doing with" approach to the teaching of highly able students based on "invitational education" (Purkey, 1978; Purkey & Novak, 1984). Invitational education concerns itself with the quality and quantity of "inviting" or "disinviting" signals created by people, places, policies, and programs. These signals appear to have a profound impact, positively or negatively, on the relatively limitless potential of human beings, particularly those who are already functioning in the upper ranges of ability.

Invitational education is centered on four basic assumptions: 1) that people are able, valuable and self-directing, and should be treated accordingly, 2) that education should be a cooperative activity, 3) that people possess relatively untapped potential in all areas of human development, and 4) that this potential can best be realized by places, policies and programs which are specifically designed to invite development, and by people who are intentionally inviting to themselves and others, both personally and professionally.

Most people believe they already know a lot about the inviting forth of human potential, but in fact it is an extremely complex process of human interaction which occurs at four levels, involves a series of skills, requires a hierarchy of risks, and applies to four basic areas of personal and professional functioning.

The length of this brief article does not permit a detailed explanation of levels, skills, hierarchies and areas involved in invitational education. However, a brief description of four levels of professional functioning and five steps in the inviting process will give some flavor of the invitational approach and indicate ways that it might be used in working with gifted and talented students.

Level I: Intentionally Disinviting. This bottom level of functioning describes those actions, places, policies and programs which deliberately dissuade, discourage, defeat, demean and destroy. Examples might be the behavior of a teacher who is deliberately insulting to a student who challenges the accepted answer, peers who ridicule a fellow student for earning high marks, or a school policy which is intentionally designed to be discriminatory against certain groups. From an invitational education point of view, there is no justification for people, places, policies and programs to operate at this bottom level.

Level II: Unintentionally Disinviting. Directors of programs for gifted and talented students that typically function at this second level constantly face the question: "Why are we having so many problems?" Educators who are functioning at Level II are usually well-meaning and high-minded, but their behavior is often viewed by others as chauvinistic, condescending, patronizing, uncaring, or simply thoughtless. Examples of such insensitivity appear again and again in student accounts of being disinvited: "I feel insulted when faculty sponsors always ask a female to take minutes," wrote one girl. Another student described his frustration over a teacher who asked, "Would you rather that I refer to you as 'Negro' or as 'Black'?. I just wish the teacher would refer to me as 'Charles.'" Teachers of gifted students can also unintentionally disinvite regular classroom teachers by their attitudes which are seen as elitist. Although the negative intent is not there, damage is still done.

Level III: Unintentionally Inviting. Programs for gifted and talented students that characteristically function at Level III are usually effective. However, because these programs and the people who design and direct them lack an understanding or even awareness of the principles involved in invitational education, they often lack consistency in direction which is the foundation of trust. They provide opportunities for gifted students, but these opportunities lack a dependable theory of practice. When programs for the gifted are not functioning well, they have a difficult time figuring out what is wrong. When people in these programs who are operating at this level are faced with difficult challenges they often resort to lower levels of functioning. After all, it is easy for people, places, policies programs to be inviting when everything is going right and the sun is shining. The mark of real professionalism is to maintain a dependably inviting stance, even in difficult situations, which brings us to Level IV.

Level IV: Intentionally Inviting. From the point of view presented here, programs for gifted and talented students should seek to be intentionally inviting. This involves everybody and everything in and around schools: the people, places, policies and programs. Recognition and acceptance of the power to be intentionally inviting, and the proper use of this power, can be a tremendous asset for those who are entrusted with the education of exceptionally able students. Educators whose goal is to be intentionally inviting not only strive to reach Level IV, but once there, they continue to move upward through successive development strategies until they create a totally inviting "envelope of excellence," where gifted and talented students want to be and want to learn.

The process of reaching and maintaining a Level IV status is complex, but at the risk of over-simplification, the following five steps provide a simple outline of the necessary ingredients. To become intentionally inviting is a worthwhile objective which may be obtained through the following process:

1. Wanting to. To reach Level IV and remain there, a teacher needs desire and commitment, based on intentionality. In other words, the teacher intends to create an inviting environment for learning.

2. Developing trust. This quality of faith in one another is basic in any teaching/learning relationship. This faith is built on the teacher's consistency in attitude and dependability in action.

3. Reading the situation. A sensitive understanding of how students see themselves, others and the world is necessary if the inviting process is to be appropriate and beneficial. To invite without this sensitive understanding frequently results in misunderstanding and rejection of the most well-intentioned invitation.

4. Sending the invitation. Sending an invitation requires a certain kind of courage. It is seeking a "doing

with" relationship that at times may be rejected. But if the teacher does not invite, the student cannot accept.

5. Check the reception. Sending an invitation is not enough. Teachers have an obligation to verify reception and acknowledgment. Thus, an RSVP is an important part of the inviting process.

While the invitational educational levels and processes are complex far beyond the description given here, there are some specific behaviors associated with invitational teaching. Research by Inglis (1976), Lambeth (1980), and Turner (1983) indicates that behaviors which conncte care, respect, friendliness, trust and respect are seen by students as being inviting, both personally and professionally.

A list of behaviors that connote care and respect can be easily compiled by teachers of gifted and talented students. Those teacher can select one, two, three or more of those behaviors on a daily basis and then record the frequency or infrequency those inviting behaviors are shared with students during the school day or in one specific class.

Part of being inviting is the willingness to take a risk. In that light, the teacher who wishes to become more inviting personally and professionally can request a colleague or supervisor to observe his or her teaching behavior, with the focus being on the inviting process. One might also use student report and video taping as a means of examining his/her teaching behavior.

Of the latter two methods, video taping is particularly suited for the observation procedure. The advantage of this method is that one conducts his or her class in a normal fashion. Later, in privacy, the tape can be replayed and behaviors noted. Similar to self-evaluation and student evaluations, the video tape method requires honesty and openness on the part of the teacher. What is seen may not be congruent with one's perception of his/her teaching behavior. The use of any of these observation techniques may aid in determining a teacher's inviting behavior and level of professional functioning. Continued use will aid in maintaining those behaviors which instructors and students both see as personally and professionally inviting.

Invitational education may not be the panacea for all the perceived faults of education. It is, however, an approach to the teaching/learning process that goes a long way in correcting some of those faults while providing a fresh and optimistic model of professional practice. Perhaps most importantly, invitational education appears to be particularly suited to the qualities demonstrated by gifted and talented students. By developing and maintaining a "doing with" relationship with these high performance individuals, teachers become partners in the quest to realize their relatively boundless potential.

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Education engageante (d'invitation) pour les surdoués.
Le but de cet article est d'introduire le lecteur au concept de l'éducation d'invitation (engageante). Quatre suppositions de base sont présentées à propos des personnes et des étudiants, en particulier, qui sont le point focal du concept. Quatre niveaux été comportement engageant ou désengageant sont aussi inclus qui sont, croyons-nous, révélés par les professeurs: volontairement désengageant, involontairement désengageant, involontairement engageant et volontairement désengageant. Chaque niveau est traité et le but de cette éducation est de devenir volontairement engageante, était inclus dans la discussion de ce niveau.

Einladunserziehung fur die Begabten.
Dieser Bericht zielt darauf hin, dem Leser ein Konzept von Erziehung durch Einladung zu geben. Es werden vier Grundideen über Menschen und hauptsächlich über Lerner, die der Brennpunkt des Konzepts sind, dargestellt. Auch eingeschloßen sind vier Ebenen von Einladungs-

verhalten/Nicht-Einladungsverhalten, die angeblich in Lehrern zu sehen sind: Nicht-Einladung durch gezieltes Verhalten; Nicht-Einladung durch ungezieltes Verhalten; Einladung durch ungezieltes Verhalten; und Einladung durch gezieltes Verhalten. Jede Ebene wird behandelt, und damit eingeschlossen in der Diskussion jeder Ebene ist ein Prozeß fur die Einführung von gezielter Einladung.

La enseñaza convitacional para los dotados.

La meta de este reportaje es que introducir el lector al concepto de la Enseñaza Convitacional. Se presentan cuatro suposiciones de la gente y alumnos, las cuales en particular son el punto focal del concepto. También se incluyen cuatro niveles de conducta convitando/desconvitando que se creyen estar desplegados por maestros: intencionalmente desconvitar, involuntariamente desconvitar, intencionalmente convitar, e involuntariamente convitar. Se discute cada nivel incluyendo un proceso para el desarollo de intencionalmente convitar.

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A Comparison of the Effects of SuperLearning* Techniques on the Learning of English as a Second Language**

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Abstract. A study using Saudi Arabian nationals learning English as a second language was conducted to test the value of the "SuperLearning" techniques as suggested in Ostrander and Schroeder's book SuperLearning. The specific techniques of relaxation, synchronized music and synchronized phrasing were used for treatment; comparisons of student achievement scores were used for the measurement of results. Results indicate a slight significance with the cumulative effects of the treatment, but no conclusive evidence suggests that use of the SuperLearning techniques with this population was valuable. Additional research is needed.

Introduction

Purpose of the Study

The purpose of the study was to compare the effects of selected SuperLearning techniques on the retention of technical vocabulary by Saudi Arabian students studying English as a second language. The results of the study were expected to be useful in determining whether the use of a basic SuperLearning technique or isolated factors of the basic technique would be advantageous in the learning of technical vocabulary by Arabic-speaking males learning English as a second language. The research was conducted at Pueblo Community College.

Background and Significance

Pueblo Community College is a state-supported institution which is located in the city of Pueblo, Colorado. Current full-time enrollments amount to 500 secondary students in special vocational training and approximately 1300 post-secondary students. The institution has recently become an autonomous institution of higher eduction resulting from a separation with the University of Southern Colorado (PCC Catalog, 1982-83, p. 7).

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*This term is trademarked by Sheila Ostrander & Lynn Schroeder.

**The author wishes to express appreciation for the assistance of Ms. Lucy Loporcaro and the International Education Management Corporation.

Pueblo Community College is in a growth mode and has recently taken action to link with business, industry and the military to develop a significant activity in contract training. It was in this interest that Pueblo Community College signed an agreement with the International Education Management Corporation to host an English as a Second Language Center on the college campus. The group of ESL students consisted of 21 employees of the Saudi Airlines Company. All of the students were Saudi Arabian nationals and had received approximately four weeks of English training at the Center.

It was the interest of Pueblo Community College and the International Education Management Corporation to examine any feasible teaching methods or techniques which could result in greater learning efficiency and effectiveness.

The results of the study have been supplied to the college deans of instruction, to International Education Management officials and to the faculty of the English as a Second Language Center. The results will also be presented to the college secondary and post-secondary faculty during a regularly scheduled in-service development workshop during the Fall of 1983.

The significance of SuperLearning has been a popular topic of recent educational research and debate. To be sure, educators of language instruction across the United States have been especially excited about the prospects of SuperLearning since Ostrander and Schroeder's book of the same name was published in 1979. Research studies using the SuperLearning techniques have been collectively inconclusive, yet the subject has scarcely been researched enough to make any final determinations about the effectiveness of the methods presented (Benitez-Bordon et al., 1976; Bancroft, 1972; Kline, 1976; Wagner & Tilney, 1982). The Benitez-Bordon studies report the call for additional research and the 1976 study concludes that both the individual and cumulative effects of the treatment, i.e., suggestion, synchronized music and breathing is significant for English-speaking persons learning Spanish vocabulary. Kline's extensive study involving high school students attempted to discover the best method for applying Lozanov's technique. The study did not state conclusions, but greatly supported the idea of additional studies on more effective learning methods. The Lozanov approach to rapid learning spawned most of the present interest in the subject, including that of Ostrander and Schroeder. Lozanov's approach, more commonly called "Suggestopedia," is reportedly used in the Soviet Union and in Bulgaria and involves the use of relaxation exercises, vocal synchronization of the teacher and synchronized music. The use of these techniques in the classroom reportedly increases learning rates by creating a neurological harmony between the left and right cerebral hemispheres of the brain. The areas of vocabulary and language retention have been reported to be especially conducive to Lozanov's techniques.

National interest in the subject appears to be on the increase and a journal on the broad subject area is now being published by an educational society in Iowa. The Society for Accelerated Learning and Teaching, or SALT, also provides teacher training and hosts international conferences. The experiment at Pueblo Community College used the technique suggested in the book SuperLearning in an effort to test its utility in teaching technical English vocabulary to Saudi Arabian nationals.

Definition of Terms

Class session. A 50-minute formal classroom meeting of students and an instructor.

Grade achievement. The numerical score achieved on a written examination that is administered to all students.

Population. The number of students involved in the study, i.e., treatment and control groups.

SuperLearning. A popular title ascribed to a learning technique developed in Bulgaria by Dr. G. Lozanov which involves the use of music, relaxation and rhythmic speaking to increase retention of factual material.

Technical vocabulary. English words commonly used in technical or work-related conversation, i.e., screwdriver, gear, transmission.

Independent variable. The application of relaxation training, music and rhythmic speaking in the classroom.

Dependent variable. The grade achievement of students involved in the study.

Subjects

The sample population used in the study involved 14 Saudi Arabian nationals enrolled in two sections of 50-minute technical vocabulary classes held at Pueblo Community College. The students were male between the ages of 18 and 21 years of age. The class sections were taught and administratively operated by the International Education Management Corporation. Both sections were taught five days weekly in the mornings. The students were not selected randomly, but the treatment group selected was normally viewed as the lower achieving group due to previous non-technical vocabulary testing. However, the pretest on technical vocabulary indicated that the treatment group had a mean score slightly above that of the control group. Both class sections received identical subject matter and were taught by the same instructor. Each class section had met for approximately five class sessions on technical vocabulary training before commencement of the study.

Design

A quasi-experimental design was used in the study since it was recognized that there were many uncontrolled variables which might contribute to the effect on the dependent variable. Further, it was recognized that the sample populations were derived from two major groups, English language classes, that were already established and were not randomly selected by the researcher.

From these two class sections, one was randomly selected by the flip of a coin to be the treatment or experimental group. The other class section was the control group. Both classes received the same 17 technical words for learning during the three-week study. However, each group also received vocabulary training in addition to the original 17 pretest words. Approximately 10 words were taught daily to each class or group. The treatment group, group I, received training in relaxation skills for fifteen minutes daily for three days prior to the beginning of the study. At the beginning of the study, immediately following the relaxation training, the group I students were asked to consciously apply the learned relaxation techniques during their technical vocabulary classes for the following three weeks. During the second week (five days), instrumental classical music with 60 beats per minute, was played by cassette tape in the classroom. The music was played in the background during the entire class sessions for two consecutive weeks. The students were reminded to relax during these class sessions. Also, during the third week (five days), the teacher presented the day's technical vocabulary words in a rhythmic style with approximately four seconds of vocalization followed by four seconds of vocal silence. The intonation, inflections and volume of the spoken words were varied with each utterance. The teacher was instructed how to prepare the vocabulary in the proper style and how to voice the vocabulary in the proper manner. The music continued to be played in the background and the students were again reminded to relax during the class sessions. Group II was taught the same vocabulary words as those taught in Group I only in the conventional non-rhythmic style. No music or relaxation techniques were used with Group II. Table 1 displays the experimental design graphically.

Table 1

Groups and treatments

	Treatment	
Group 1	relaxation	week one
Group 2	none	
Group 1	relaxation & music	week two
Group 2	none	
Group 1	relaxation, music, rhythmic vocabulary	week three
Group 2	none	

Measurement

The study involved three weeks of treatment and the significance of retention was determined via class section mean scores of student achievement. Student achievement was measured by the results of a vocabulary test given weekly. The mean score measurements involved four tests per student. All students in both groups received identical tests. The tests were objective in nature and were administered on the same mornings to each group to avoid contamination of the study. Each group received a vocabulary test from the Test of English as a Foreign Language (TOEFL) over 17 technical words on the day before the study began. Each group received teacher-made tests at the end of week one and week two. These tests included words in addition to the original 17 pretest words. At the end of week three, each group received the original pretest TOEFL on the 17 technical words. Neither group knew it would be receiving the TOEFL-extracted test at the end of the study.

The weekly achievement scores were measured and compared by a standard t-test for independent groups at the end of the study to determine if there was any significant difference between the two groups and among the three treatment factors. A comparison of the two groups prestudy mean scores was made to determine if any pre-existing achievement difference was present. The administration of four total tests to be considered in the statistical analysis was viewed as a stabilizing factor which would represent a more valid measure of significance, if any, derived from the treatment. A delayed treatment implementation, after four vocabulary class sessions, served as a leveling factor and was an advantage in the design since anxieties involving teacher and student expectations over new subject matter had been diminished.

Research studies of this type must frequently take precautions against a variable known as the Hawthorne effect (Turney and Robb, 1971). The Hawthorne effect may invalidate a study in which the subjects in the study begin to react to the research condition in an exaggerated or atypical manner rather than to behave normally under the treatment involved. If a Hawthorne effect did occur in the proposed study, it would have affected all subjects equally regardless of any group differentiation. All students were informed about the general purpose of the research, but were given no details or research expectations. It was assumed that this situation would not be a significant factor in this study.

Statistical Analysis

To effect the proposed comparison of grade achievement levels between students in the two groups, a t-test for independent groups with 12 degrees of freedom was administered. The pretest and weekly test scores for each student were combined to establish group means which were used in the analysis. A .05 level of significance was utilized.

Results and Discussion

A t-test for independent groups with 12 degrees of freedom was performed with the means of the two groups for the pretest and each of the three weekly tests. These means are displayed in Table 2. Table 3 displays the raw test scores for both groups. The statistical analysis, t-test for independent groups with 12 degrees of freedom is displayed in Table 4.

Table 2

Groups and testing mean scores

	(T) Group I	(C) Group II
Pretest	39	31
Week One end (Relaxation)	70	77
Week Two end (Relaxation and Music	79	82
Week Three end (Relaxation, Music & Rhythm) (Posttest)	100	84

From an analysis of the data it is clear that no significant difference between the groups existed prior to the beginning of the treatment. It should be noted, however, that an initial difference in mean scores did exist between

Table 3

Raw test scores for both groups

Students (T) Group I	Pretest	Week One	Week Two	Week Three (Posttest)
51	41	92	80	100
52	18	84	82	100
53	53	8	94	100
54	35	48	64	100
55	65	66	45	100
56	18	92	94	100
57	41	100	100	100
(C)Group II				
51	24	92	100	100
52	41	68	91	94
53	24	100	100	94
54	35	40	45	53
55	24	48	55	71
56	35	100	91	94
57	24	92	91	82

Table 4

T-test results (n=14)

Pretest	Week One Test	Week Two Test	Week Three Test (Posttest)
-0.356	0.458	0.178	-2.522

Critical t value at .05 level of significance = ± 2.179

the two groups and no equating statistical test was used in the data analysis. It is equally clear that no significance resulted from either the week one end test or the week two end test. A significance was present at the week three end test or posttest. Group I, the treatment group, dropped in mean score in comparison to Group II, the control group, at the end of the first week's treatment of relaxation. It should be noted, however, that one of the seven students in Group I scored the inordinately low score of 8 of 100 possible points. Group I was also behind Group II in the mean score comparison at the end of week two which involved the combined treatment of relaxation and background music. Group I did achieve a significantly greater mean score at the end of the third week, or posttest, when compared to Group II. It should be noted that a ceiling effect was realized in the posttest where all seven students in the treatment group achieved scores of 100 out of a total possible score of 100.

Conclusions

It appears that the value of using Ostrander and Schroeder's methods for SuperLearning among related Saudi Arabian students studying technical vocabulary in the English language is inconclusive. The data in the study indicates no individual effects from the relaxation or the relaxation combined with background music treatments. Although a slight significance was reported between the two groups on the posttest mean scores, it seems unlikely that the cumulative effects of relaxation, background music and special teacher phrasing was the sole cause of the significance. Since the pretest mean scores had an initial mean score difference, not significant, and since the posttest mean score of the treatment group was 100 percent, the significance in this study is suspect. Further, the possibility of a Hawthorne effect changing the study habits of the treatment group cannot be ruled out. Although the treatment group scored more poorly than the control group on tests presented during week one and week two, the perfect posttest scores of the treatment group may indicate a change in study habits during the last week of the study. Although study habits may or may not have changed as a result of the treatment, it is clear that the students receiving the treatment believed that a relaxation exercise before each class was helpful. All of these students continued to consciously relax before each class, six per day, even though the study had been concluded for four weeks. In view of this research study data and the recognized study limitations, the use of the SuperLearning technique as derived from Ostrander and Schroeder's book is not justifiable when based on pure student performance.

Recommendations

The prospects of establishing a more efficient and effective teaching method must be taken seriously. The claims of Lozanov and others have to be considered judiciously. Although the results of this study were inconclusive, this researcher believes that further work is definitely needed in this area. Specifically, more studies are needed which can create a valid comparison of the Lozanov method to the SuperLearning method of Ostrander and Schroeder. Additional studies are needed which involve larger numbers of students over longer periods of time. Further, more studies are needed which concentrate totally upon students enrolled in English as a second language.

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Une comparaison des effets des techniques "SuperLearning" dans l'étude de l'Anglais comme seconde langue.

Prenant des nationaux d'Arabie Saoudite apprenant l'Anglais comme langue étrangerè, une étude a été menée afin de tester la valeur des techniques "SuperLearning," suggéreés dans le livre de Ostrander et Schroeder, SuperLearning. Les techniques spécifiques de relaxation, musique synchronisée et phrase synchronisée ont été utilisées pour traitement; comparaison des scores de réussite des étudiants ont été utilisés pour l'évaluation des résultats. Résultats indiquèrent une signification faible des effets cumulatifs du traitement, mais pas d'évidence concluante suggérant que l'utilisation des techniques "SuperLearning" sur cette population soit évaluable. De plus amples recherches sont nécessaires.

Ein Vergleich der Effekte von SuperLearning auf das Lernen von Englisch als zweiter Sprache.

Ein Versuch wurde durchgeführt, worin audi-arabische Staatsangehöriger Englisch als zweite Sprache lernten, um den Wert der in Ostrander und Schroeder's Buch SuperLearning vorgeschlagenen "SuperLearning"-Technik zu prüfen. Die spezifischen Verfahren von Entspannung, syn-

chronisierter Musik und synchronisierter Redeweise wurden als Behandlung angewendet. Der Vergleich von den Punktzahlen, die die Lerner erlangt hatten, wurde als Messung der Resultate benutzt. Die Ergebnisse der anhaufenden Effekte der Behandlung deuten eigentlich auf sehr wenig Signifikanz hin, und kein überzeugender Beweisgrund läßt vermuten, daß das Verwenden von "SuperLearning"-Technik mit dieser Zielgruppe wertvoll war. Zusätzliche Untersuchungen sind nötig.

Una comparación de los efectos de técnicos de SuperAprendizaje en el aprender del Inglés como lengua segunda.
Se conductó una investigación con saudi árabes aprendiendo el inglés como lengua segunda para probar el valor de los técnicos de SuperAprendizaje como sugeridos en el libro SuperAprendizaje por Ostrander y Schroeder. Los técnicos específicos de relajación, música sincronizada y frazeando sincronizado se usaban por tratamiento; una comparación de cuentas de ejecución se usaban por la medición de resultas de estudiantes. Las resultas indican una pequena significación con los efectos cumulativos del tratamiento, pero ninguna evidencia no sugijere que el uso de los técnicos de SuperAprendizaje con esta población fue estimable. Se necesita investigación adicional.

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Cognitive Learning Styles in "Traditional" Audio-Lingual and Suggestopedic Language Instruction*

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Abstract. The study of cognitive styles is one of the most prominent directions being explored in the field of education today. However, the foreign language field has yet to produce a significant body of literature on this important topic. This paper discusses the implications of cognitive style mapping in "traditional" audio-lingual and suggestopedic language instruction. Placing of students by similarity of their learning modes might enhance audio-lingual programs while the entire aspect of cognitive styles is perhaps of no significance in suggestopedic classes, based on intuitive rather than cognitive language acquisition.

Audio-lingual language instruction is often offered in four steps: listening, speaking, reading and writing-- a revolt against the classical grammar/translation approach. One could argue that since language is primarily a spoken phenomenon, learning by ear is a necessary prerequisite for language mastery. However, the generation of learners that has been raised on multimedia stimuli will do better with audio-visual classroom presentations rather than with audio drills alone. For this group of learners, sets of visual learning tools--videotapes, slides, cards, films and so forth-- are essential for successful language mastery.

One must, however, consider yet another important variable which has been discussed by various language pedagogues during this past decade, referred to as individualized learning and/or individual cognitive learning styles, or modes (Bernstein, 1974; Berwald, 1974; Hammerly, 1975; Hubbard, 1975; Schachter et al., 1976; Loew, 1977; Briere, 1978; Cooke, 1978; and Stevick, 1980 & 1981). Despite an interest in individualized learning noted in professional literature, very little evidence exists that an approach based on learning styles is being used on a wide scale. In most language classes, students are sent to language laboratories

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(and thus deprived of visual stimulation), or bombarded with visuals mainly on the basis of one criterion only: the instructor's personal preference for a certain teaching style which controls all class activities while students' learning modes are chiefly ignored.

Yet, there is a diversity of cognitive modes which affect language acquisition in a multitude of ways. They must be identified through pre-instructional diagnostic tests in order to establish a basis for cognitive-style grouping of students. One such test battery was developed by Joseph Hill (1979) as a basis for grouping students in general education courses. Although his test was not aimed at language learners specifically, its basic classifications are appropriate for language classes as well. The set of questions used to determine the students' preferred learning modes and attitudes toward others in general is simple, clear and non-threatening. On the basis of the answers elicited from the students, they are grouped within the following categories: a) visual versus auditory, b) cultural, and c) inferential.

The visual/auditory set is composed of:

1. Theoretical auditory and quantitative auditory learning modes, and
2. Theoretical visual and quantitative visual learning modes.

It is reasonable to assume that the student who learns primarily through auditory sensors will learn better with the printed word withheld until the mastery of the sound system of his target language is achieved, certainly for those languages whose letter-to-sound correspondence is complex, e.g., French, English, Japanese and Chinese. Conversely, the student who relies on visual signals (or visual and auditory), will do better with the listening and reading phases offered simultaneously. Unfortunately, most of the "traditional" audio-lingual classes, true to their name, are geared to the auditory learner. Style mapping and student grouping could enhance audio-lingual instruction and satisfy both the auditory and visual learners.

Another set of learning modalities is cultural; it deals with the students' personal attitudes and characteristics, as well as their reactions toward authority. The categories comprising this set are as follows:

1. Degree of influence by associates (other than family)
2. Degree of influence by family, church and authority figures
3. Independence in decision making

Cultural modalities should be taken into account at least in three activities: a) in assigning certain tasks to individual students, b) in grouping students into learning teams, and c) in evaluating performance and progress. The logistics of task assignment could be made easier by the recognition of the above-given cultural categories. For example, both the first and second group will do better in teams while the student with a well-developed sense of independence (group 3), will most likely prefer individual work. He will be satisfied with working at his own pace, as in programmed instruction or the unmonitored language laboratory. The same student, however, might question the instructor's opinions and requests, class procedure or even the value of the course itself. Once the cultural modes are understood and taken into account by both the student and the instructor, the class dynamics could be improved.

The third set of learning styles, that of *modalities of inference*, deals with the way we learn through logical operations of the brain. Whereas some of the learning modes could (if needed) be modified to a certain degree in some students, modalities of inference are based on deeply-ingrained learning behavior, resistant to modifications. We learn *how to learn* early in childhood, and tend to retain our own logical processes throughout adulthood. This set of modalities includes the following categories:

1. Categorical reasoning
2. Reasoning by differentiation
3. Reasoning by analogy
4. Reasoning by a combination of the above categories
5. Reasoning by deduction

Short of using different sets of materials and techniques for each given modality of inference, individualized instruction (on the basis of variable logical operations), is simply wishful thinking on the part of a well-meaning but powerless language instructor, since by its very nature, the audio-lingual approach is rather rigid and mono-modal. The student is expected to learn through *analogy* from dialogues and structured drills while the *differentiation* mode is used only sporadically, and then mostly in phonological drills. Whereas student grouping by modalities of inference seems impractical in audio-lingual classes, one must understand that individual learning modes affect performance, that is, some of the learners will stagnate in a mono-modal class.

Several suggestions are put forth by Marion Neil (1979) who feels that a switch from one modality to another, the one prevalent in a given class, can be accomplished (when needed) by assigning individual tasks based on different learning modes during the first six weeks, and then gradually "weaning" the student from his preferred mode of learning. Neil also proposes a special test for the student who learns through three different modalities (reasoning by categories, by differentiation and by analogy) since this particular learner will be most likely slow and unable to cope with time limits built into certain types of tests.

In sum, while certain considerations should be given to cultural and inferential cognitive styles, auditory/visual style mapping is a useful teaching device in successful language learning based on audio-visual approach.

Suggestopedic Language Instruction

Suggestive-accelerative learning, or suggestopedia, conceived by Georgi Lozanov of Bulgaria, is based on the following principles:

1. The teacher is the figure of authority, subject and personality-wise.

2. The student is transposed to a state of *infantilization*. He is receptive, non-critical, likes to fantasize, imitate and impersonate without feeling ridiculous. He repeats new sounds and structures readily. He is happy, relaxed and relies on the father image of his instructor. To achieve this state, the student is deprogrammed through stress-relieving sessions of five to twenty minutes' duration during which he listens to baroque musical selections while breathing deeply and rhythmically. These sessions remove or weaken all *learning barriers* --logical, intellectual, emotional and ethical--programmed in our minds by our respective environments.

3. The induced relaxation, or *pseudopassiveness*, is accompanied by superior cerebral activity which in turn produces *hypermnesia*. The hypermnesic state greatly accelerates data acquisition and retention. According to Lozanov (1978), the hypermnesia mechanism probably extends directly to the motor functions and wider nerve structures of the brain, while the psychological mechanisms for overcoming learning barriers are embedded in the nonspecific mental reactivity (not yet classified), or *NMR*.

4. Synchronized music and rhythmic breathing place the student in *alpha state* by slowing the electrical activity of the brain. This state is associated with great mental receptivity to suggestions and with processing information instantly and *intuitively*, thus bypassing all cognitive censorship exercised by sensory organs. Whereas in Western philosophy, the concept of intuition is viewed as the *absence of reasoning*, in Yogic doctrine (on which suggestopedia is partially based), intuition is considered a *transcendent faculty of perception*, direct and instantaneous (Taimni, 1974). Mircea Eliade (1970) reports on the superiority of intuitive versus cognitive learning which is slow since it molds the information received before presenting it

to the intellect for further processing. The time spent on this evaluation of the input is tainted by personal biases (what Lozanov calls learning barriers), which must be removed either by a suggestion from without or, even better, by autosuggestion. For example, cf. Green et al. (1977).

5. The alpha brain is happy, euphoric and playful; it is eager to learn and it cooperates in creating positive class dynamics. The Lozanov Method has been tried in the United States and there seems to be a widespread acceptance of suggestopedic stress-relieving activities (Roberts, 1974). Philipov (1975) adds that suggestopedia releases a "flow of togetherness" that generates a positive attitude and hypernesia in *all* students regardless of their individual cognitive learning styles. Cognitive styles then are inoperative in suggestopedic classes according to Lozanov and his adherents.

Suggestopedia and Cognitive Learning Styles

Upon reflecting on what has been presented earlier on intuitive learning, one might erroneously conclude that audio-visual stimuli are superfluous in suggestopedic classes. This assumption is negated by the very care with which audio-visual stimuli are incorporated into suggestopedic class designs.

During deprogramming sessions, auditory stimuli are essential, at least initially, to provide a lever that switches cognitive perception to another modality, that of intuition. Visual channels remain passive during this phase, often referred to by suggestopedic instructors as the *passive concert*. The students can and do listen to the music (with or without background lessons), with their eyes *closed*. *Mentation*, or visualization, is slowly activated (by a heterosuggestion or autogenically), and the learner begins to perceive information in images, in wholes rather than in a linear progression characteristic of cognitive data processing, slow and judgmental (Bayuk, 1983).

Although visual stimuli are temporarily suspended in the passive concert, in the *active concert*, which may include re-enacted dialogues, role playing, vocabulary drills, and so forth, both visual and auditory stimuli are synchronized with these activities and with occasional background music. However, by the time the learner is ready to participate in an active manner, *he is already* free of all learning barriers and personal phobias. It can be be said that he now maintains the *homeostasis* of emotional stability, tractability of behavior, intuitive learning mode and supermnesia.

W. R. Ashby (1970) points out in *Design for a Brain* that although the living organism behaves in a purposeful and adaptive way, the brain resembles a machine in its dependence on chemical reactions, integrity of anatomical paths, and the precision with which it reacts to excitation from its environment. Thus the brain is both mechanistic and behavioristic. Moreover, according to Ashby, the direct intervention of consciousness is not necessary for adaptive learning. This can be interpreted as yet another piece of supportive evidence of Lozanov's assertion of the superiority of intuitive over cognitive learning. Lozanov has amply demonstrated that the indicated alpha state generates certain chemical changes in the learner's brain which in turn trigger modified behavior conducive to better learning; in other words, a more positive homeostasis. See Pines (1973) for additional information on brain and learning.

The homeostatic balance (be it physical, emotional or mental) can be either positive or negative. Eric Lenneberg (1967) reports in Biological Foundations of Language that there is a critical point in the human lifespan when all linguistic operations are "locked in" in the left hemisphere which processes information mainly through cognitive paths. J. Williams (1950) suggests in The Principles of Psychology that we could indeed learn how to control homeostasis, or "point" the homeostatic balance in the direction of our choice by carefully selecting one thought over another, one emotion over another, and one behavior over another. In suggestopedic classes, the learner seems to be able to point his homeostasis in the direction suggested by his mentor/teacher while he (the learner) is in the altered state of consciousness, the alpha state. Infantilization helps him to regain the state of playfulness and freedom, and to counteract the locking-in into the cognitive paths of his habitual adult state. His logical operations are suspended while the subliminal, or intuitive mode takes over, oblivious to all learning differences governing cognitive processes. Hence style mapping and student grouping is superfluous in suggestopedic instruction. According to Lozanov, deprogramming evens up cognitive differences and conditions all types of students for receptivity.

Conclusion

While suggestopedia dispenses with cognitive modalities (since learning mode is intuitive rather than cognitive), the audio-lingual approach calls for student grouping for better language acquisition and retention. Since such grouping is difficult, and at time impossible (as in the inferential mode), the audio-lingual approach in its present state is not realizing its full potential.

While the cultural modality is most likely applicable to both approaches, the ready acceptance of the authority figure in suggestopedic classes of the Soviet Block is rein-

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forced by general sociocultural attitudes common to the communist society. In the West, on the other hand, the authority figure often generates an adverse reaction from the student, negatively affecting his own performance as well as class dynamics. Here again, the audio-lingual approach suffers in comparison.

Both approaches have been extensively tested, although suggestopedia is still on trial outside of the Soviet Block. The logistics involved in mounting suggestopedic programs in the West, and the sociocultural implications of the method's underlying philosophy are rather formidable. Although suggestopedia can yield significant results under certain conditions, it has yet to prove its large-scale applicability in noncommunist environments.

Nevertheless, a great deal of literature can be found which explains (and supports) this new pedagogy not only from the educational and linguistic points of view, but also through discoveries in other fields--brain research, parapsychology, musicology, Yoga, autogenics, hypnosis and biochemistry. Suggestopedia has blazed the trail by synergizing outside data in its search for new ways in tapping human potential, and perhaps has been also instrumental in triggering a shift of emphasis from the method per se to the student as a whole human being--a remarkable step forward toward a better educational environment.

Suggestopedia is more than a method. It is a multi-faceted composite built on pedagogical universals such as avoidance of critical judgment, stress-free classroom, freedom of choice in responding to a given stimulus, and alternation of active participation with silent, intuitive internalization of a linguistic system. Static methodologies of the past are nothing but ossified rituals that do not take into account what we know today about human learning. Suggestopedia's wholistic quality might have been instrumental in awakening a more traditional methodologist to the need of classifying learners according to their individual cognitive styles, thus giving directions to innovations within already proven methodology--such as the audio-lingual approach--based on cognitive learning.

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Styles d'études connus dans l'enseignement "traditionnel" audio-oral et suggestopédique de langue.

Cette étude des styles connus est une des directions les plus remarquable étant explorée dans le domaine de

l'éducation à l'heure actuelle. Cependant, le domaine de langue doit encore produire une consistance significative sur cet important sujet. Cet article traité des implications de style connu dressant un plan dans l'étude "traditionelle" audio-orale et suggestopédique des langues. La répartition des étudiants grâce à la similarité de leur méthode d'apprentissage pourrait mettre en valeur les programmes audio-oraux bién que l'aspet complet des styles connus, peut-être sans signification dans les classes suggestopédiques, basées sur l'acquisition d'une langue connue plutôt qu'intuitive.

Kognitive Lernweisen im "traditionellen" audio-lingualen und suggestopädischen Sprachunterricht.

Die wissenschaftliche Forschung über kognitive Lernweisen ist eine der bedeutendsten Forschungsgebieten, die in der heutigen Erziehungswissenschaft untersucht werden. Trotzdem hat das Gebiet Fremdsprachenlernen bis jetzt keine bedeutende Sammlung von Schriften über dieses wichtige Thema hervorgebracht. Die Folgerungen von kognitiver Planweise im "traditionellen" und suggestopädischen Sprachunterricht wird hier analysiert. Wenn die Lerner nach ähnlichen Lernweisen in Lerngruppen eingeordnet werden, ist es möglich, daß es das audio-linguale Lernprogramm fördern würde. Andererseits würde dieses Vorfahren im suggestopädischen Unterricht vielleicht keine Bedeutung haben, da Suggestopädie intuitives statt kognitives Sprachgewinn betont.

Estilos cognoscitivos del aprendizaje de lenguas con la enseñanza "tradicional" audio-lengual y sugestopédica.

Esta investigación de estilos cognoscitivos es una de las direcciones mas prominentes que se explora hoy en el campo de educación. Como quiera que sea, el campo de lenguas extranjeras todavía tiene que producir una cantidad significante de literatura en esta tema importante. Este reportaje discute las implicaciones de trazar estilos cognoscitivos en la enseñanza "tradicional" audio-lengual y sugestopédica. El poniendo de estudiantes por similaridad de sus estilos de aprender eleve programas audio-lenguales mientras que el aspecto entero de estilos cognoscitivos, tal vez de ninguna significancia en clases sugestopédicas, se basa por lenguas en adquisición no cognoscitiva sino intuitiva.

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Mental Speeded Practice in Learning Words*

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Abstract. The purpose of the study was to determine if suggestions to speed up mental thought processes would increase the number of rare English words processed during a practice session, and if so, whether learning would also be enhanced. A mixed ANOVA design was used with college student subjects from introductory psychology classes. Independent variables were: suggested mental speeding, preliminary relaxation, sex of subject, cognitive task, word list easiness and practice. Dependent variables were: the number of words processed during learning, number of words defined correctly, number of words later remembered, pleasantness and alertness ratings during learning. Results showed that the sophisticated speeding condition produced a 33 percent mental speeding increment over the simple set-up and this was followed by a 25 percent acquisition increase in the number of words recalled 5-10 minutes after practice. A corresponding increase in retention, but insignificant, was shown seven days after the initial practice. Other results are discussed and interpreted to give a more complete picture of mental speeding.

The purpose of this study was to determine whether suggestions given in the waking state that one's mental processes were speeding up considerably, would in fact enable one to practice material to be learned faster and therefore more efficiently per unit of time than otherwise and result in increased learning. Cooper & Erickson (1950) reported that the "time sense can be deliberately altered to a predetermined degree by hypnotic suggestion," and the resulting subjective experience. Although time seemingly proceeds at a normal rate for the subject, it "actually takes place with great rapidity." Raikov & Adamenko (1968) have reported that it is possible for hypnotized subjects to speed up the practice of material such as rehearsing a piano recital quite efficiently in this fashion. However, the present authors in several previous pilot projects were unsuccessful in applying this to accelerating the learning of vocabulary, essentially because of a lack of sufficient increase in words processed. Therefore, the purpose of this study was to use suggestion in the waking state without hypnosis to speed up subjects' processing of material (rare English words) and to practice this over several sessions such that the subjects' speed of word processing was accelerated.

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The background for this study originated in the work of Lozanov (1971, 1978). In the rapid and efficient learning that he calls suggestopedia, about half of the classroom time is spent in practicing material previously presented. "Practicing" can take several forms: language dialogues, laboratory work, drills, visits to museums, fun and games, etc. The method overall appears to be an effective method of accelerating learning, as shown by Bushman (1976), Public Service Commission of Canada (1975), Walters (1977) and Schuster (1976).

Practicing, however, may also be accomplished purely mentally without a motor component and may be speeded up. Raikov and Adamenko (1968) reported that art students under hypnosis could be told that they were a famous artist and painted accordingly; this process successfully speeded the art training. The same authors also reported that a pianist could successfully practice purely mentally (under hypnosis) an entire evening's performance in a few minutes.

A brief review of the recent hypnosis literature on time distortion is appropriate here. Aaronson (1968) reported that a hypnotized female college student stated that suggestions of speeding time led to feelings of mania and that suggestions of slowing time led to feelings of tranquility. Schwartz (1978), in investigating hypnotic time distortion, reported that hypnosis is a state in which the subject is not concerned with attending to the context of his/her actions. St. Jean et al. (1982) stated that hypnotized subjects tended to underestimate the passage of time, but that this was not related to amnesia for events under hypnosis.

Krauss et al. (1974) reported that hypnosis could be used to alter the amount of subjective time available for studying material to be learned, and that learning under the condition of hypnotically stretched time was equivalent to learning in the same objective time period without hypnosis. However, this favorable use of hypnotic time distortion to speed learning was not replicated by Johnson (1976), St. Jean (1980) or Wagstaff et al. (1979). The study reported here may shed some light on this discrepancy.

Using an operant response paradigm, Baer (1979) reported that four of five highly susceptible female subjects under hypnosis significantly decreased their response rate even though it cost them experimentally. (The remaining subject essentially showed no change under these conditions.) The task was a perceptual matching task wherein the subject pressed a key to indicate the non-matching stimulus to a standard. In a different perceptual motor task, Baer (1980) reported that hypnotic time-slowing suggestions significantly improved the psychomotor performance of three hypnotized female subjects in playing a TV video game. These two studies need replications.

This brief review of the literature shows some support for the notion that hypnotic time distortion can be used to facilitate learning, especially perceptual-motor performance. However, replications when done have failed sometimes to confirm initial findings; obviously more work needs to be done carefully to tease out the real matter of the situation.

Barber (1969) contends that most so-called hypnotic phenomena can be produced with subjects in the waking state by appropriate set-motivating instructions. In this vein, Gallwey and Kriezl (1977) worked with waking state self-suggestions to improve skiing. Wenger (1977) used relaxation techniques and self-suggestions to improve mental functioning. Oldridge (1982) reported that nonhypnotic positive suggestions in the classroom helped learning disabled students learn.

In a pilot project to explore mental speeding and learning, we were able to accelerate subjects' thought processes such that they were able to generate 37% more images than controls. This amount of speeding was not statistically significant due to large error variance. Therefore, in the present study we undertook several procedures designed to reduce both the statistical and experimental errors. We decided to use a pretest to check on the random assignment of students to the between-subjects treatment conditions so that we could assure ourselves that the subjects were initially homogeneous between groups on ability to learn vocabulary. We also used a different preliminary relaxation procedure than before, as well as a different speeding technique. Finally, we had a more precise check on the manipulation of speeding itself, by having subjects keep track of how many images or sentences they generated per list in the standard time interval of five minutes. It was hoped that these improvements would be effective and result in reliable differences between the treatment conditions.

Our experimental hypotheses are stated below in terms of the independent variables used in this current study. An overview of the variables in this present study is given in Table 1. Our two major hypotheses were:

1. We hypothesized that subjects who had instructions to speed up their mental processes with the procedures used in this study would not only speed up their thought processes significantly, but also learn more vocabulary words than subjects not given the speeding suggestions and practice.

2. We hypothesized that subjects given preliminary relaxation instructions would, as in previous research, be able to learn more vocabulary words than subjects not given these preliminary relaxation instructions.

We had several supplementary hypotheses whose main effects and interactions hopefully would help interpret any findings:

3. We hypothesized that female subjects, in keeping with the reports of previous literature, would be able to learn more vocabulary words than would male subjects.

4. We hypothesized that subjects with instructions to make *sentences* to learn the vocabulary words would learn the same number of words as subjects instructed to make *images* to associate the common definition of the vocabulary words.

5. We hypothesized that there would be no difference in subjects taking the four lists of vocabulary in an easy-hard-hard-easy vs. hard-easy-easy-hard sequence of lists. This was a control measure.

6. We hypothesized that subjects given easy lists, in keeping with the previous research with these particular vocabulary lists, would have higher vocabulary acquisition scores than subjects given hard lists.

7. We hypothesized that subjects would improve with practice. That is, subjects should have higher vocabulary acquisition scores on the last lists than on the first lists.

Method

We used a mixed analysis of variance design with four between-subjects independent variables of task, gender, relaxation, and speeding set-up. In addition, using a within-subjects design, each subject took all possible levels of two additional variables, list easiness and practice block. Finally, a control variable, the sequence of lists in evaluating the practice effect, was the last independent variable between-subjects. Half of the subjects took a hard-easy-easy-hard sequence of lists, whereas the remaining subjects took the complementary easy-hard-hard-easy sequence.

Table 1

List of variables in mental speeding study

Independent variables between subjects	Levels
1. Speeding set-up: 1-simple, 2-sophisticated	2
2. Preliminary relaxation: 1-none, 2-given	2
3. Gender of subject: 1-male, 2-female	2
4. Task: 1-make images, 2-make sentences	2
5. List sequence: 1-easy/hard/hard/easy, 2-hard/easy/easy/hard	2
Within subjects	
6. List easiness: 1-hard, 2-easy	2
7. Practice: 1-first 4 lists, 2-last 4 lists	2
Covariate	Possible Range
1. Acquisition score on preliminary list	0-25
Dependent variables	
1. Items processed: number of images or sentences generated in 5 min.	0-220
2. Acquisition score: number of words defined correctly right after learning	0-25
3. Retention score: number of words matched correctly one week later	0-25
4. Pleasantness rating during learning: 1 = unpleasant to 9 = pleasant	1-9
5. Alertness rating during learning: 1 = tired to 9 = alert	1-9

We were concerned that ability to learn vocabulary words might have been different across the first four independent variables of task, gender, relaxation and speeding. To control and evaluate for this possibility, we gave a preliminary vocabulary list to all subjects as they entered the experimental room after explanations. Thus, we were able to assure ourselves that the subjects were indeed comparable on vocabulary learning ability at the start of the experiment and that this ability had been randomly distributed within chance levels of significance among all groups of the four major between-subjects independent variables.

We used several dependent variables. The first major dependent variable was the acquisition score on each vocabulary list of 25 words. (The word lists are described below.) This score simply was the number of words known in a free-recall definition task immediately after the list had been learned. Subjects indicated if they had known any words before (which was rare) and if so the total score was reduced by this number. The acquisition score thus could range from 0-25 maximum. The second major dependent variable was the retention score or the number of words known one week later on a matching test. The subjects had to pick the correct definition out of a list of 30 words among which 5 chance distractors had been inserted. Again, the retention scores could range from 0-25 maximum.

As a check on the effectiveness of the speeding independent variable, subjects were required to indicate the number of the vocabulary item on which they had been working at the end of the time allotted. Since half of the subjects had been requested to make images and the other half had been requested to make sentences to help them learn the material, the number of items made in the learning period was the number of images or sentences made per list. This objectively determined number ranged from 19-215.

Two minor dependent variables were the pleasantness and the alertness of subjects during the learning situation. At the end of the learning period, subjects were requested to make a pleasantness rating ranging from 1 (very unpleasant) through 5 (neutral), to 9 (very pleasant), and similarly for alertness while learning the list. These variables served as an affective complement to the cognitive variables of acquisition and retention.

Subjects. The subjects for this study were recruited from undergraduate college students taking introductory psychology courses. These subjects received extra credit for having participated in this project. Within each treatment condition, half of the subjects were male and half female. Initially, we started with 80 subjects due to expected attrition over the four experimental sessions. When a treatment group had more than two subjects who had completed the fourth and last session, subjects were selected randomly to provide two replications of each treatment cell in all possible combinations of the dichotomous independent variables of gender, task, sequence, suggestion and relaxation. Thus, the total number of subjects was 32.

As a check on the manipulation of the speeding set-up and at the end of the list study period, subjects were asked to note the word that they had been working on. Each subject had also been requested to make a tally mark each time s/he had been through the list of 25 words. Thus, the manipulation check was simply the number of images or sentences that the subject had made in the experimental learning period of 5 minutes.

All subjects learned 8 lists of 25 vocabulary words apiece. On a given day, subjects learned two experimental lists, took a short break, and then learned the next two experimental lists. On the second experimental day, the last four lists were learned similarly. The practice variable was dichotomized as follows: the first set of lists learned versus the second set of lists and served as a check on learning factors such as facilitation or fatigue.

Each list of 25 words to be learned had been randomly generated from a list of 200 hard or 200 easy words. The authors originally did not know the meaning of these rare words selected from Webster's unabridged dictionary; an example is "maremma," a seaside marsh. The hard lists used those words from previous research where the words had been below the median, and the easy lists were composed of those words learned above the median in terms of achievement. Each list had two words that started with the following letters: B, C, D, F, G, L, K, M, P, R, S, T and one word that started with the letter W. Thus, with the exception of minor random variations, each list was an alternate form for any of the other lists subject to the easiness variable.

Results

We tested first the random assignment of subjects to the major groups with respect to their initial vocabulary learning aptitude on the basis of their scores on the pretest list. For the independent variables of task, gender, relaxation and set-up, there were no significant main effects ($p>.05$) nor interactions on the dependent variable of pretest achievement score. The closest an effect came to being significant was for the effect of gender ($.05<p<.1$). Thus, our assumption of random assignment of subjects varying in vocabulary learning aptitude to the major treatment combinations and interactions was justified and we proceeded with the next analysis.

We were concerned about the effect of the speeding manipulation, and used a 1-tailed test due to the pilot project results. This effect was significant ($F=4.36$, $df=1/15$, $p<.026$). In the simple set-up, subjects made 54.9 items per list on the average whereas with the sophisticated or speeded set-up, they averaged 73.3 items per list; a 33.6% speed-up. The speeding was independent of the task or gender of subject. A significant practice effect ($F=59.40$, $df=1/199$, $p<.0001$) occurred. This practice effect was essentially linear with subjects' averaging 43 items for the first list learned and 84 items on the 8th and last list. There was no indication that this trend was leveling off, so that we probably gave insufficient practice even with 8 lists.

We turn now to the major analyses of the effects of the independent variables on the two major dependent variables or criteria of acquisition and retention scores (See Table 2). Of the 41 effects tested in each case, 2.0 might have been significant by chance at the 5% level and 0.4 at the 1% level. In actuality for the effects of the independent variables on acquisition, there were 8 effects significant at the 5% level and 4 significant at the 1% level. Thus, most of the significant effects for acquisition can be presumed to be reliably above chance and would be replicable. For retention scores, there were 3 significant effects at the 5% level and 1 at the 1% level. Accordingly, some of the results for retention might not replicate.

The average acquisition and retention scores are tabulated in Table 3 by treatment level for significant main effects and 2-way interactions. Note that both criteria averages are given even though only one effect possibly was significant. Significant 3-way interactions are graphed below.

Note that the main effects of both speeding set-up and relaxation were significant for acquisition, but not retention. The interaction of preliminary relaxation and speeding set-up was not significant but the data showed an interesting cumulative trend as expected: no relaxation and simple set-up=11.7, no relaxation and sophisticated set-up=15.0, relaxation and simple set-up=15.7, relaxation and sophisticated set-up=19.2 words acquired. Subjective reports of subjects in these four groups typically were as follows, control group: "boring, tedious"; relaxation-only group: "tired, sleepy"; speeded-only group: "disbelief in possibility of speeding up one's thoughts"; relaxed and speeded group: "weird-but-pleasant feelings", "looked forward to attending session."

The significant three-way interaction effect of task by set-up by practice on acquisition is shown in Figure 1. The essence of the interaction appears to lie in the fact that the practice effect was greatest for the more complex situation where the task was to make images with the sophisticated set-up. This showed the greatest gain with practice going from 16.4 words per list on the first half to 20.5 words per list on the second half. In contrast, the simple set-up for the image task resulted in 11.6 words per average on the first half and 12.4 on the second half, essentially no practice effect. Similarly, no practice effect was shown in the case of making sentences for either the simple or sophisticated set-up.

The significant interaction effect of gender by relaxation by list easiness on acquisition is shown in Figure 2. The interpretation appears to be that test easiness had no effect

Table 2

ANOV summary for the effects of Task, Gender, Relaxation, Set-up, Practice and Easiness on acquisition and retention scores

		Acquisition		Retention	
Effect	df	MS	F	MS	F
T, Task	1	6.47	0.08	95.06	0.97
G, Gender	1	464.94	5.37*	70.14	0.72
X, Relaxation	1	1068.47	12.35**	306.25	3.13
S, Set-up	1	745.97	8.62**	102.52	1.05
TG	1	53.47	0.62	37.52	0.38
TX	1	4.79	0.06	60.06	0.61
TS	1	591.10	6.83*	735.77	7.53*
GX	1	106.35	1.23	129.39	1.32
GS	1	190.79	2.20	36.00	0.37
XS	1	1.72	0.02	221.27	2.26
TGX	1	12.69	0.15	0.02	0.00
TGS	1	286.88	3.32	126.56	1.29
TXS	1	17.54	0.20	17.02	0.17
GSX	1	116.91	1.35	1.00	0.01
TGSX	1	4.44	0.48	430.56	4.40
Error 1	15	86.54	---	97.76	---
P, Practice	1	157.82	11.43**	16.00	2.07
E, Easiness	1	448.91	32.52**	68.06	8.82**
TP	1	49.88	3.61	12.25	1.59
TE	1	6.57	0.48	3.06	0.40
GP	1	36.75	2.66	1.27	0.16
GE	1	25.63	1.86	1.27	0.16
XP	1	12.69	0.92	0.25	0.03
XE	1	6.57	0.48	7.56	0.98
SP	1	32.35	2.34	0.77	0.10
SE	1	0.04	0.00	8.27	1.07
EP	1	15.50	1.12	0.00	0.00
TGP	1	0.04	0.00	0.02	0.00
TGE	1	16.50	1.20	34.52	4.47*
TXP	1	0.88	0.06	0.25	0.03
TXE	1	0.47	0.03	0.06	0.01
TSE	1	5.94	0.43	0.02	0.00
TSP	1	59.10	4.28*	4.52	0.59
GXP	1	1.13	0.08	1.27	0.16
GXE	1	69.10	5.00*	2.64	0.34
GSP	1	0.10	0.01	16.00	2.07

Table 2 (continued)

GSE	1	4.25	0.30	0.25	0.03
GEP	1	17.54	1.27	1.89	0.25
SXP	1	25.63	1.86	6.89	0.89
XSE	1	5.35	0.39	0.39	0.05
XEP	1	29.57	2.14	2.25	0.29
SEP	1	0.19	0.01	1.27	0.16
Residual	199	13.81	---	7.71	---
Total	255	34.45	---	21.81	---

*:p<.05, **:p<.01

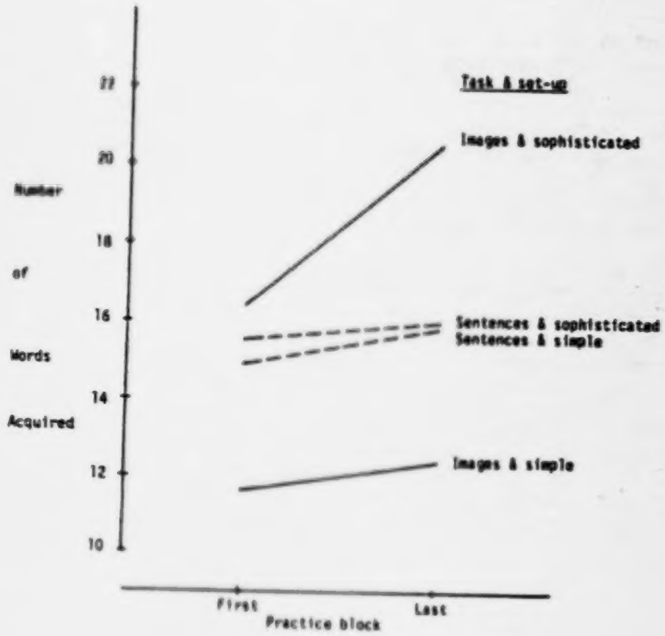
Table 3

Average acquisition and retention vocabulary scores by treatment level for selected treatment effects

Treatment Effect	Levels	Acquisition	Retention
Set-up	Simple	13.7	5.0
	Sophisticated	17.1**	6.2NS
Relaxation	None	13.6	4.5
	Relaxed	17.4**	6.7NS
Gender	Male	14.1	5.1
	Female	16.8*	6.1NS
Easiness	Hard Lists	14.1	5.1
	Easy Lists	16.7*	6.1**
Practice	First half	14.6	5.8
	Last half	16.2**	5.3NS
Task by	Set-up		
Images	Simple	12.0	3.9
Images	Sophisticated	18.5	8.5
Sentences	Simple	15.4	6.0
Sentences	Sophisticated	15.8*	3.9*

NS: Not significant; *:p<.05; **:p<.01

Figure 1. The interaction of task, set-up and practice on acquisition scores.



on males in the relaxed case, whereas test easiness did contribute to higher scores for the other three cases.

Turning to the effects for the second major dependent variable of retention after one week, the significant effects of test easiness by task by set-up are tabulated in Table 3.

The significant three-way interaction of task by gender by easiness on retention is shown in Figure 3. The interpretation is that in general, list easiness affected retention favorably except in the case of females' making sentences where there was essentially no improvement in going from a hard to an easy list: 6.4 words with hard lists and 6.3 average with the easy lists.

Next we turn to the affective criteria, the pleasantness and alertness ratings of subjects just after they had finished learning each list. The ANOV summary is given in Table 4, and significant main and two-way interaction effects are tabulated in Table 5. Significant higher order interactions are presented below.

The significant interaction of gender by set-up by practice on pleasantness ratings is shown in Figure 4. The practice effect was beneficial only for the simple set-up with male subjects: their pleasantness ratings improved somewhat with practice, whereas for the other three groups the pleasantness ratings remained the same or decreased.

The significant interaction of relaxation by set-up by practice is shown in Figure 5. The gist of the interaction appears to be that pleasantness ratings improved for sophisticated set-up with no relaxation, but they decreased for the simple set-up and no relaxation. Moreover, the effects were just the opposite for the relaxed condition: pleasantness ratings improved somewhat for the simple set-up but they decreased markedly for the sophisticated set-up.

The significant interaction of relaxation by set-up by practice on alertness ratings is shown in Figure 6. In the no-preliminary relaxation and simple set-up case, alertness ratings deteriorated with practice. In the other two cases there was no practice effect; the ratings remained about constant.

The significant interaction of task by gender by relaxation by set-up on alertness ratings is shown in Figure 7. Where the task was image making, a sophisticated set-up improved the alertness ratings of males considerably without preliminary relaxation. In contrast with preliminary relaxation, the alertness ratings decreased for males. There essentially was little or no interaction in the case of females

Figure 2. The interaction of relaxation, gender and list easiness on acquisition scores.

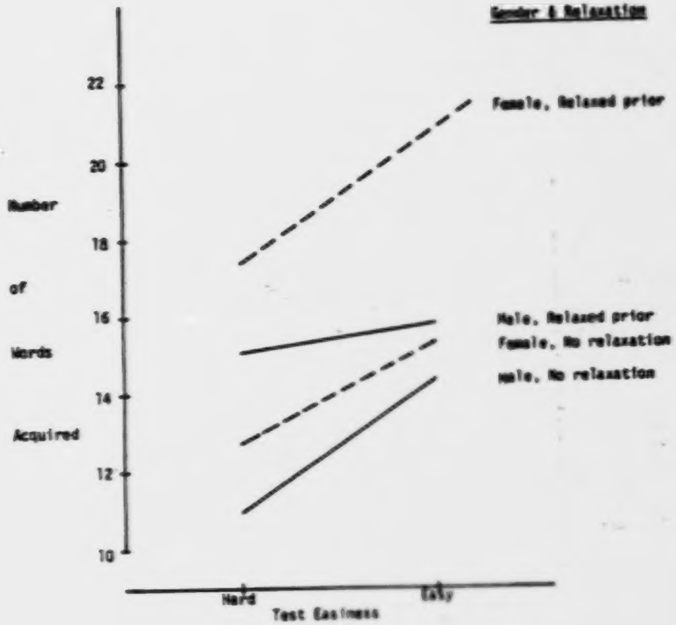


Figure 3. The interaction of task, gender and list easiness on retention scores.

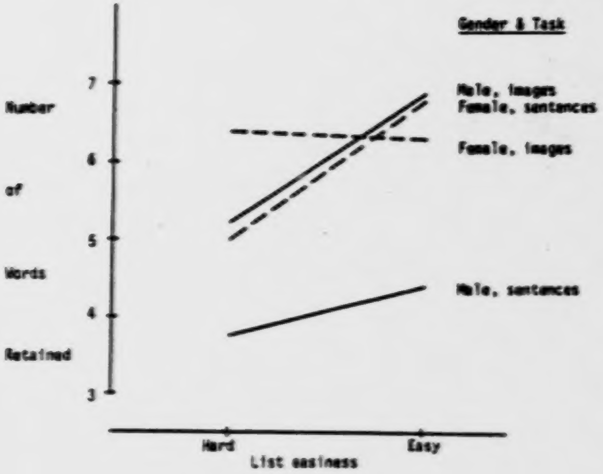


Table 4

ANOV summary for the effects of task, gender, relaxation, set-up, practice and easiness on alertness and pleasantness ratings

		Alertness		Pleasantness	
Effect	df	MS	F	MS	F
T, Task	1	7.22	0.71	0.00	0.00
G, Gender	1	0.00	0.00	10.97	1.03
X, Relaxation	1	0.10	0.01	24.38	2.30
S, Set-up	1	30.94	3.04	77.66	7.32*
TG	1	9.38	0.92	13.60	1.28
TX	1	2.07	0.20	2.07	0.19
TS	1	2.07	0.20	1.72	0.16
GX	1	6.57	0.65	0.66	0.06
GS	1	3.75	0.37	29.57	2.79
XS	1	25.63	2.52	5.94	0.56
TGX	1	41.44	4.07	11.82	1.11
TGS	1	0.10	0.01	10.16	0.98
TXS	1	0.32	0.03	10.97	1.03
GXS	1	0.66	0.06	10.50	1.46
TGXS	1	89.07	8.76**	25.62	2.42
Error 1	15	10.16	---	10.61	---
P, Practice	1	0.32	0.17	3.75	2.13
E, Easiness	1	20.82	11.23**	43.07	24.45**
TP	1	10.16	5.48*	0.10	0.06
TE	1	1.13	0.61	0.32	0.18
GP	1	0.00	0.00	0.19	0.11
GE	1	0.10	0.05	0.66	0.37
XP	1	28.22	15.32**	0.19	0.11
XE	1	0.10	0.05	0.10	0.06
SP	1	0.19	0.10	0.32	0.18
SE	1	1.13	0.61	0.10	0.06
EP	1	0.00	0.00	0.04	0.02
TGP	1	0.88	0.47	0.00	0.00
TGE	1	0.00	0.00	0.00	0.00
TXP	1	0.32	0.17	0.19	0.11
TXE	1	0.10	0.05	1.13	0.64
TSE	1	1.41	0.76	1.13	0.64
TSP	1	0.88	0.47	0.00	0.00
GXP	1	3.75	2.02	0.47	0.27
TXE	1	0.10	0.05	1.13	0.64
TSE	1	1.41	0.76	1.13	0.64
TSP	1	0.88	0.47	0.00	0.00
GXP	1	3.75	2.02	0.47	0.27
GXE	1	0.04	0.02	1.72	0.98
GSP	1	2.44	1.32	10.16	5.77*

Table 4 (continued)

GSE	1	0.04	0.02	0.10	0.06
GEP	1	1.41	0.76	0.88	0.50
XSP	1	19.69	10.63**	36.75	20.86**
XSE	1	0.88	0.47	0.00	0.00
XEP	1	0.10	0.05	0.66	0.37
SEP	1	0.32	0.17	0.88	0.37
Residual	199	1.85	---	1.76	---
Total	255	3.27	---	3.35	---

*: p<.05, **: p<.01

Table 5

Average alertness and pleasantness ratings by treatment levels for selected treatment effects

Treatment Effect	Levels	Alertness	Pleasantness
Set-up	Simple	5.1	4.9
	Sophisticated	5.8NS	6.0*
Easiness	Hard lists	5.2	5.0
	Easy lists	5.7**	5.9**
Task by	Practice		
Images	First half	5.1	5.5
Images	Last half	5.4	5.3
Sentences	First half	5.8	5.6
Sentences	Last half	5.4	5.3
Relaxation by	Practice		
None	First half	5.8	5.2
None	Last half	5.1	5.0
Relaxed	First half	5.1	5.9
Relaxed	Last half	5.7**	5.6NS

NS: Not significant, p<.05; *:p<.05; **:p<.01

Figure 4. The interaction of gender, set-up and practice on pleasantness ratings.

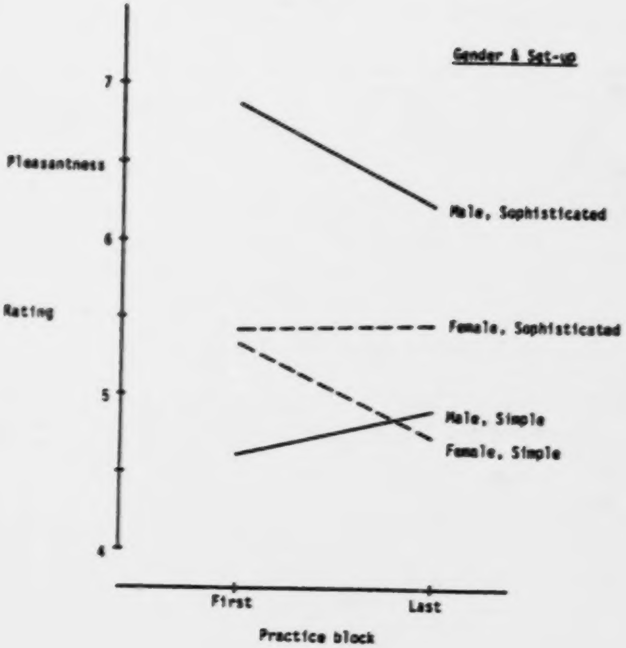


Figure 5. The interaction of relaxation, set-up and practice on pleasantness ratings.

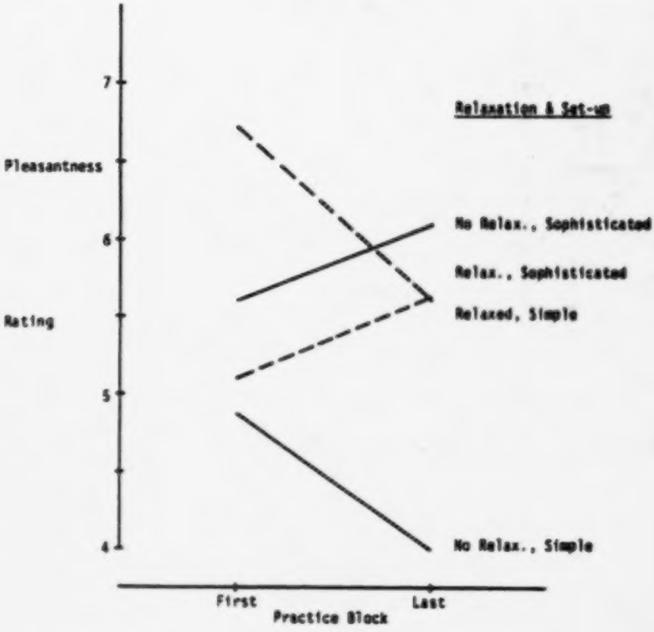
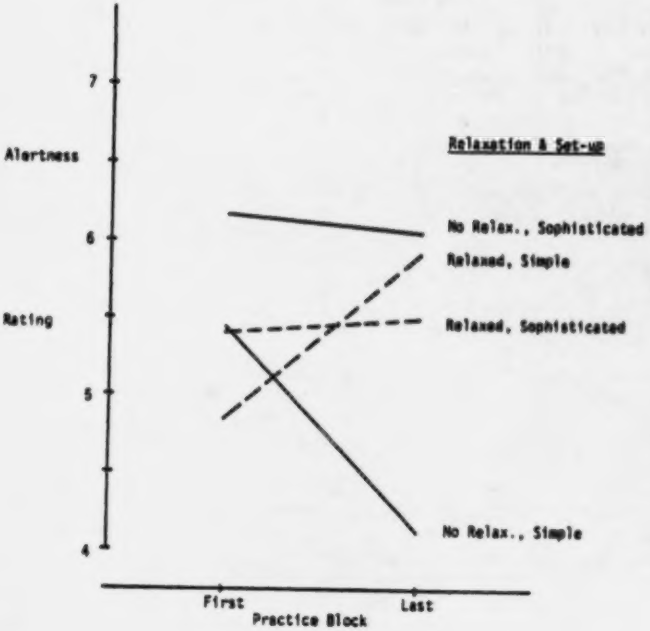


Figure 6. The interaction of relaxation, set-up and practice on alertness ratings.



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with or without relaxation and regardless of set-up condition. In the right half of the figure a different picture emerges. Females with a sophisticated set-up, but with no preliminary relaxation and males with relaxation, improved their alertness ratings considerably, whereas for females, the opposite effect occurred. Their alertness ratings decreased when given relaxation in the sophisticated case. The sophisticated set-up appeared to have a slight effect on males with no relaxation.

Discussion

The major finding of this report can be summarized as follows. This study provides objective verification of previous beneficial subjective reports of the effects of mental speeding upon cognitive performance. Specifically, under the sophisticated speed-up condition of suggested accelerated mental processes, subjects averaged 33% more items processed than when given a simple speed-up request. This increase in the speed of thought processes was mirrored by a 25% significant increase in the number of words acquired, and in an insignificant 27% increase in number of words remembered one week later. In addition, the affective criteria supplemented this finding: in the sophisticated speeded condition, the pleasantness ratings increased significantly by 23% and the alertness ratings increased by 14% insignificantly.

As expected, on the basis of previous research, when subjects were relaxed previous to learning they did acquire significantly more words and there was a trend ($p<.10$) for this to be remembered one week later. There was no effect on the pleasantness or alertness ratings.

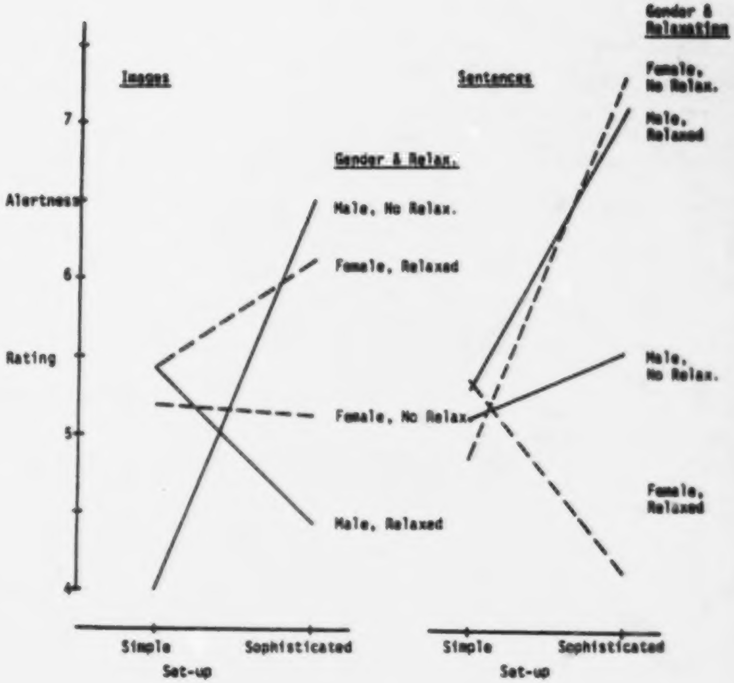
As predicted, we found that the gender or sex of subjects did affect the acquisition scores, with women scoring better than men as expected. However, there was no effect on retention, pleasantness or alertness.

We had predicted no significant main effects for the independent variable of task, images or sentences. And, indeed, we found none on the four dependent variables: acquisition, retention, pleasantness or alertness ratings.

As predicted on the basis of previous research, there were significant effects for all four dependent variables on list easiness.

As predicted, the acquisition practice effect was significant; subjects learned more words per list in the second half of their lists than in the first half. The effect was insignificant for the retention variable one week later, and also for the pleasantness and alertness ratings.

Figure 7. The interaction of task, gender, relaxation, and set-up on alertness ratings.



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We believe that our experimental sophisticated speeding instructions produced a faster processing of the 25 items per list as contrasted with the simple instruction. Further we believe this increased processing caused a corresponding increase in acquisition. However, the interpretation of which element(s) of our sophisticated instruction caused this increased learning is unclear. As suggested by a critical reviewer, perusal of the sophisticated instruction shows that the intended speeding manipulation was confounded with a motivational appeal to try hard and to imagine vividly. Unfortunately, we discovered this after all the data had been collected and analyses completed.

Task motivating instructions to "try hard" do make a difference positively in performance as reported by Barber (1969) and DePiano & Salzberg (1981), among others. Further, DePiano & Salzberg (1981) reported that hypnotic induction plus task motivating suggestions to try hard were better than task motivating instructions alone. While our relaxing instructions were similar to those of certain hypnotic induction procedures, we did not find a significant cumulative interaction between our independent variables of relaxation and set-up (see Tables 2 and 4). Further, our simple set-up instruction ("Work as fast as possible.") had its counterpart included in the sophisticated set-up (see Appendix). Accordingly, we believe the confounding primarily lies between simple task motivating appeal alone (simple set-up) versus complex task, motivating appeal plus imagery instructions. We can merely point out this confounding here; resolution would have to come in a future study.

We discuss the two minor criteria results for alertness and pleasantness ratings briefly. Liebert et al. (1965) reported that "alert" hypnosis versus the usual soporific hypnosis resulted in fewer errors in learning because of the increased attention to learning. This was not corroborated here for the effects of the set-up variable on the alertness rating. (Note, however, that we did have an insignificant trend in this expected direction.) In contrast, the set-up variable did produce a significant effect on the pleasantness rating: the increased processing of items in the sophisticated set-up condition was accompanied by a pleasanter rating than in the simple set-up. One might have guessed the opposite beforehand: working faster mentally should be stressful and thus result in less pleasant ratings than otherwise. So our faster mental processing was also pleasant.

We consider momentarily the significance of this study. Perhaps it may be a little practical help to students; as in courses on speed reading: get your mental processing speeded up and this helps overall learning. Also this study may explain some of the accelerated learning of Lozanov (1978). Finally, we believe this study may shed some light on the lack of replication for the Krauss et al. (1974) study. In contrast to suggestopedic studies (such as Lozanov, 1978) where gains of 200-300% are reported, we report here a modest acquisition gain of 25%. The effect apparently is small, and optimum conditions, whatever they are, are necessary to demonstrate the effect.

Theoretically, this study raises some neurophysiological questions: Are the corresponding event-related potentials (ERPs) faster? Does the EEG spectrum shift higher? Does something happen to the myelin nerve sheaths? Answers to these questions would help supply a theoretical basis for our finding herein. We simply don't know. As usual we have raised more questions than we have answered.

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APPENDIX

General Instructions

This is an experiment to determine under what conditions you learn the best when you practice silently learning words under different instructions. You will be learning 25 rare English words on each of 8 lists, under different instructions, and over several practice sessions. Some of you will be asked to make sentences to aid your learning; others will make images, which will also aid your learning. This instruction will be printed in the upper right hand corner of the first page of the packets which are in front of you. You are to practice learning the words using either sentences or images, as you are instructed, for the entire duration of this experiment.

If your instructions state "images," use images to associate the word and its common usage. For example, if you wanted to learn the word "pusillanimous," you might use this image. Imagine a cartoon with a pussy cat cowering in a corner with a brightly colored sign attached to its neck saying "cowardly puss." If your instructions state "sentences," make any meaningful sentence to learn the rare English word. You can use the common definition in the sentence, or you can make up any other sentence as long as it makes sense to you. Whatever instructions you receive, either images or sentences, you should do it for each of the 8 lists you learn from. Do you have any questions?

There are 25 rare English words on the left half of the pages in your packet, and their common definition on the right half. Your task is to learn the common definitions of each words. If the words are fuzzy or poorly printed, please raise your hand and I will spell them for you. Also, if you knew any of the words previous to this experiment, please circle them.

Go through the list as fast as possible, from top to bottom, sequentially, and keep going through them again and again as time permits. Every time you go over a word you can either review your previous image or sentence, or you can make up a new image or sentence. Keep count of the number of times you go through each list by marking a line or slash at the top of the page you are working on. Also, when I ask you to stop, mark a check by the word you are on. For example, if you go through the list three times, you should have three slashes at the top of the page. You should have a check marked by the word you were on when I said "stop." After this is done you are to write the number of sentences or images you made at the top of the page. You can obtain this number by multiplying the number of slashes at the top of the list by 25 and adding to that sum the number of the word you were on when you were asked to stop. Are there any questions?

You will have five minutes to learn the words from each list. Work as fast as possible. You can quit at any time, but then you would not be able to receive the entire amount of extra credit possible for this experiment.

Relaxation Instructions

(These next instructions were read to subjects in the relaxed groups and were skipped for the non-relaxed groups; the experimenter then went on to the next section.)

I want you to follow these simple relaxation instructions that I am about to give you. Start by stretching out your legs... putting your hands in your lap, or wherever is most comfortable... closing your eyes...and relaxing. Now, start by relaxing the muscles in your head. Feel the relaxation, the comfort, moving through those muscles...Feel this relaxation move down into your facial muscles...into your neck...and your shoulder. Feel it moving down into your upper arms...forearms...hands...and fingers. Allow this feeling of relaxation to move down into your chest... midrift...abdomen...feel it move into your thighs...knees...calves. As this relaxation moves into your ankles...feet...toes, your entire body can feel more comfortable, relaxed and healthier than before.

Now, I want you to take a deep breath and feel the relaxation flow into your body; exhale, take a deep breath, relax, feel good; exhale, take a deep breath, relax and exhale. Now you are already relaxed, and by trying the things I ask, you can become even more relaxed.

Now, I want you to imagine a movie screen, and on this screen, I want you to imagine the number 3...hold it...3...3...3...good. Now, visualize the number 2...hold it...2...2...2...Now visualize the number 1...hold it...1...1...1...good.

Now I'm going to count backwards from 7 to 0, and as I say each number, you can feel yourself becoming more and more relaxed, comfortable...feeling good. 7...6...5...feeling relaxed and comfortable...4...3...2...let the relaxation flow into your body...1...and as I count 0 you will feel even more relaxed, comfortable and healthier than before...0...Good. (Adapted from Silva & Miele, 1977.)

(The instructor-experimenter next read either the sophisticated speeding set-up instructions, or the simple instructions, but not both.)

Speeding Instructions (Sophisticated)

Please keep your eyes closed while I talk. This is an experiment to test your ability to imagine and learn. How well you do on the tests which will be given you depends entirely on your willingness to try to imagine. Previously, everyone did very well on the tests when they tried. When asked to imagine something, most people were able to do this very well. However, a few people felt that this was an awkward and silly thing to do, and they did not try to imagine and they failed the tests. Yet when these people later realized that it wasn't hard to imagine, they were able to imagine vividly the things we asked. What I ask is your cooperation in helping this experiment by trying to imagine vividly what I describe to you. I want you to try as hard as you can because we are trying to measure the maximum ability of you to imagine and learn. If you don't try to the best of your ability, this experiment will be worthless and I will tend to feel silly. On the other hand, if you do try to imagine to the best of your ability, you can easily imagine and do the interesting things I tell you and you will be helping this experiment and not wasting time. (Adapted from Barber, 1969).

Your mind can go anywhere, anytime. Your mind can go at the speed of light. The ability is already there, very smoothly, so fast. You may open your eyes and learn the words even more quickly and easily than before. (Adapted from personal suggestion by T. X. Barber, 1980.)

Speeding Instruction (Simple)

You may open your eyes now. Work as fast as possible. (Adapted from Barber, 1969.)

(The experimenter then started the 5-minute timing period for the first list of words to study. The appropriate instructions following our experimental design were repeated before each of the 8 lists.)

* * *

Entrainement mental accéléré dans l'étude de mots.

Cette étude eut pour but de déterminer si des suggestions afin d'accélérer le processus de pensée mentale pourraient accroitre le nombre de rares mots Anglais traités pendant une séance d'entrainement, et si oui, si l'apprentissage pourrait aussi été mis en valeur. Un projet d'analyse mixte (ANOVA) a été utilisé sur les sujets, tous étudiants d'une

classe d'introduction à la psychologie au collège. Des variables indépendantes ont été suggéreés: vitesse mentale, relaxation préliminaire, sexe du sujet, tâche connue, facilité et pratique de liste de mots. Les variables dépendantes comprenaient le nombre de mots traités durant l'apprentissage, nombre de mots définis correctement, nombre de mots souvenus plus tard, évaluation de l'affabilité et de la vivacité des étudiants durant l'apprentissage. Résultats montrèrent que le conditionnement plus complexe de vitesse produisit une augmentation de 33% de la vitesse mentale par rapport à une installation simple et celle-ci suivit par une augmentation de 25% d'acquisition et de rétention des mots 5-10 mn après l'entrainement. Une augmentation correspondante dans la rétention des mots, mais insignifiante, était montrée 7 jours après l'entrainement initial. D'autres résultats sont traités et interprétés afin de donner une plus complète image de la vitesse mentale.

Geistesgeschwindigkeitsübung im Worlernen.
Dieses Forschungsprojekt zielte darauf hin, herauszufinden, ob Vorschläge über die Beschleunigung von Gedankenprozessen die Zahl der ungewöhnlichen englischen Wörter erhöhen würde die wärend einer Übungsstunde behandelt werden, und, wenn das so ist, die Frage bleibt, ob dann auch das Gewinn im Lernen sich erhöht. Eine Mischanalyse der Varianz (ANOVA) würde mit Versuchspersonen benutzt, die Universitätsstudenten von Einfügrungskursen in Psychologie sind. Unabhängige Variablen waren: Vorgeschlagene Geistesgeschwindigkeitserhöhung; einleitende Entspannung; Geschlecht der Versuchsperson; kognitive Aufgabe; Einfachheit der Wortliste; und Übung. Abhängige Variablen waren: Die Zahl der wärend des Lernens behandelten Wörter; die Zahl der richtig definierten Wörter; die Zahl Wachsamkeitsbewertung während des Lernens. Resultate zeigen, daß die verfeinerte Beschleunigungsbedingung eine Geistesgeschwindigkeitsrate von 33% mehr als die einfache Einrichtung beibrachte. Darauffolgend ergab es eine 25% Erwerbserhöhung in der Zahl der Wörter, an die man sich 5-10 Minuten nach der Übung erinnerte. Eine entsprechende aber nicht signifikante Erhöhung im Behalten der Wörter zeigte sich 7 Tage nach der ersten Übung. Andere Resultate sind behandelt und erklärt, um eine vollständigere Schilderung von Geistesgeschwindigkeitserhöhung zu geben.

La práctica mentalmente acelerada en el aprendizaje de palabras.
La meta de este reportaje fue determinar si sugerencias para acelerar los procesos mentales acrecentarían el número de palabras raras e inglesas procesadas durante una sesión de práctica, y así, si se eleve el aprendizaje también. Un diseño de mezclado análisis de varianza se usó con estudiantes colegiales de clases de psicología preliminar. Variables independientes fueron sugerida mental aceleración,

relajación preliminar, sexo de sujeto, tarea cognoscitiva, facilidad de palabras y práctica. Variables dependientes fueron el número de palabras procesadas durante el aprendizaje, número de palabras definidas correctamente, número de palabras recordadas mas tarde, valuaciones de delicia y vigilancia durante el aprendizaje. Las resultas mostraron que la condición de acelaración mundana produjo un 33% incremento en la velocidad de pensar sobre el sencillo establecimiento, y trás esto fue un 25% incremento en la adquisición en el número de palabras recordadas 5- 10 minutos después de la práctica. Un correspondiente incremento en la retención, sino insignificante, se mostró 7 dias trás la práctica inicial. Otras resultas son discutidas e interpretadas para presentar una pintura mas completa de aceleración mental.

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Scientific Research and New Projects Using the Suggestopedic Method*

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Abstract. This paper provides an updated resumé of research highlights, sources of research information on the Lozanov Method and results of some programs. Additionally, a presentation of various new projects that use the suggestopedic approach is given, especially with regard to application with the US educational system. In conclusion, there is a presentation on the future outlook for this method of learning and a list of areas where it is expected to be applied.

On the occasion of the Eighth Annual SALT Conference, it is indeed a pleasure to have this opportunity to present research highlights and an outline of various new suggestopedic projects that may provide some stimulation of thought and action for the SALT participants and other followers of this dynamic method of learning.

I am particularly pleased to note that SALT and the Lozanov Learning Institute (LLI) have come a long way in these eight years, both having been founded about the same time and for similar purposes and goals: that of introducing into the US an innovative, holistic and accelerative method of education based on the method as developed by Dr. Georgi Lozanov of Bulgaria. Both of these organizations are true pioneers in the areas of accelerated development of human potential capacities. However, the main difference as we see it, is that SALT has taken a rather broader approach in the accelerated learning area while LLI has pioneered the method as developed and implemented by Dr. Lozanov. This was largely necessary because of contractual relationships LLI has had with Bulgaria, and also because we have not yet noted on the scene any method that can surpass the Lozanov Method, especially in the teaching of foreign languages. As Dr. Lozanov has frequently said himself, he welcomes anyone to bring forth any better method or improvement to his method, but also suggests that they bring their verifying data in support. To date we have not seen such data.

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*Paper presented at the 1983 SALT Conference.

In my presentation, I wish to cover several specific areas including the following:

1. Review of research results of suggestopedic applications
2. Discussion of new projects and applications
3. Meeting the apparent "crisis" in the US educational system
4. Future outlook for the suggestopedic method and for LLI

Please note that I do not intend to make any commentary about the commercial activities of LLI, and I might add, LLI is a commercial organization because this was necessitated by our agreement with Bulgaria. There are, however, several concurrent nonprofit foundations which are grant-getting organizations and which serve to support the bulk of suggestopedic research. One of these is the Mankind Research Foundation, and this group has been successful over the years in obtaining grants and conducting a fair amount of research in this area.

I also wish to point out there is nothing wrong with commercialization of this program, and one of our past concerns with the SALT Conference is that some of the persons who took issue with LLI over commercialization of this program did indeed use the SALT Conference as a forum to promote their own commercial activities, and I for one do not feel that this is fair, ethical or proper. Therefore, I do not intend to do this in my presentation, and those who wish information about our commercial activities may write us and LLI will promptly respond to every inquiry. It has been our experience that if you have a good product and have done your research properly, the product will be a commercial success, and this is the cornerstone of our effort.

With respect to scientific research, there are a number of fine reports available documenting this, such as the following: In the ERIC listing, there are about 70 excellent reports which can be easily obtained. Dr. Milla Bayuk of the University of W. Florida, has published an excellent annotated bibliography which lists a considerable number of very good reports. Some of the most useful reports we have seen are those prepared as theses by candidates for advanced degrees. An example of this is the report by Ahmad Fassihian, originally from Iran, who was awarded his Ph.D. in 1982 from Georgetown University. The title of his dissertation was The Notational Analysis of Suggestology and its Application in the Teaching of a Foreign Language. Another excellent source is the bulletin published in Bulgaria by the Research Institute of Suggestology. This was unfortunately only published in 1976-77 and for reasons unknown to us, this was discontinued, but it does contain a wealth of scientific reports on this method. A fine contemporary report on the Lozanov Method is Philip Miele's work called "Suggestopedia: Easier Learning the Natural Way." All of these items are available in photocopy format through LLI, but it is hoped in the future that each will be republished by a competent publishing house. There is a great need to publish and disseminate reports in this area, and LLI has attempted to do so, but LLI is not a publishing house, and perhaps SALT or someone may help bring this about.

Several studies of the method have been done in both the US and USSR. It is worthy to note that this method is being used or being closely reviewed by two of the leading language training centers in the world: The Maurice Thorez Language Institute in the USSR and the US Foreign Service Institute in Arlington, Virginia. Those who wish further details in these areas should contact me separately.

To date LLI has prepared a number of official language applications that have not even yet been conducted in Bulgaria. For example, LLI has prepared courses in the Japanese, Chinese and Arabic languages, with specially prepared suggestopedic texts using subliminal cues. We have greatly optimized the effect in the teaching of non-Latin alphabet languages. Our success to date has attracted the attention of a number of governmental agencies as well as international organizations such as UNESCO, foreign embassies, private companies such as ARAMCO, Mobil Oil Company and others. We are now preparing suggestopedic courses in Hindi and Urdu and coordinating these via a language professor at the University of Pennsylvania. Not to be overlooked are the African languages, and presently Swahili and Lesotho are offered with Zulu and Afrikaans in preparation. Now with world tensions higher than ever and with the world literally shrinking in size, it is urgent that the art of spoken conversation be improved. It is particularly noteworthy that this method has come out of an East European country, Bulgaria, to help us in the West improve our communications. With respect to the "shrinking of the world," it is relevant to note that several airlines: American, Northwest Orient and others, have prepared feature articles for their monthly travel journals, highlighting this method. Contact LLI for copies of these. As a last note in the area of language teaching, we are particularly pleased to note that Newsweek magazine (November 15, 1982), devoted over five pages to the importance and need for learning English throughout the world, and listed the suggestopedic method as one of the few promising methods now available for the teaching of English. We can all take satisfaction that Newsweek has even focused on this issue, and also recommended this program to its wide readership.

Discussion of New Projects

At the 1981 SALT Conference, I had occasion to make some comments at David Meier's presentation on a so-called "right-brain teaching machine" that would optimize the teaching of rote material. This has now been completed, patent filed and this innovative device will be available this year. We expect to apply this optimized method of self-learning with audio-tapes using a suggestopedic-type format for rote material areas such as:

1. language self-study
2. medical student courses (anatomy, pharmacology
3. basic skills (mathematics and reading)
4. law students (bar exam and law reviews)
5. science students (biology and physics)
6. special courses such as weight control, smoking and alcohol control, and a host of others

Another project is the application of the suggestopedic method to improving sports performance. It has long been suspected that this method has been in use by athletes in Eastern Europe for some time, and this fact has recently been confirmed for us by the former sports psychologist of the USSR Olympic Team who is currently in contact with LLI on this program and who now resides in California. LLI has prepared audio-visual materials for this purpose. The basic approach here is similar to all of our courses--that of creating positive expectations in the mind of the student, altering the state of consciousness to a desired level, bypassing the left-brain hemisphere while activating the right, and the use of special affirmations delivered in a highly suggestive, rhythmic manner. LLI is presently working with several athletes and Olympic candidates on these programs, but we intend to extend this to all levels of sports, hopefully including use by Charles Gritton's Des Moines high school wrestling team (although it appears they don't need it).

Another new project area is the use of suggestopedic learning with flotation tanks. In 1982 LLI carried out a major research program in association with a Denver group that manufactures flotation tanks on the order of the concept developed by Dr. John Lilly. It was found that the tanks enhanced deeper relaxation states, thus enabling ease of learning the material-- in this case, the Spanish language. LLI now wises to upgrade these experiments using more tanks and those with such tanks who wish to participate should contact the director of LLI who will then furnish them the necessary materials.

Various other new projects have been conducted and are now available, and are briefly described as follows:

1. application of Lozanov Learning Method (LLM) to business applications. This is evidenced by the TEAM Course which is being well received by the business community.
2. application to accelerated reading.
3. application to holistic health, stress management, problem solving.

Meeting the Challenge of the Apparent "Crisis" in the US Educational System

Perhaps one of the most critical and vital areas that all of us here at the SALT Conference can devote our efforts to is to improving the situation in the public school system. This has become not only a political but a personal issue, and I believe through taking an accelerated learning approach that we could all together have a considerable impact on this situation. LLI has developed a means whereby this can be done on a widespread national and international basis that could reach into every school district in the United States, and also Mexico and Canada who have similar problems. We are speaking here of a teacher-in-service training problem based on the LLM that would upgrade teachers' training, provide them with new tools and techniques, and turn the classrooms into true learning centers rather than the classrooms of mediocrity that some of them have become. LLI has already pioneered such a program in several school systems with most impressive results. These include the Chicago, Illinois and Bristol, Virginia school systems. More needs to be done and we are now talking to school officials from Harlem (New York) to Watts/Compton in Los Angeles. LLI welcomes you to join us in this program which we expect to be funded by federal, state and private grants. In addition, the program itself is expected to perpetuate itself from the revenue it produces. LLI can assure the interest and possible support of the US Dept of Education and will further cooperate with any group here at SALT in applying for grants for this program.

Future Outlook for the Suggestopedic Method and for LLI

Before I cover this area, I would like to clarify several issues that have arisen over the years, probably as a result of rumors or misinformation.

1. Dr. Lozanov does exist, is alive and reasonably well for a person of his age and heavy activity.
2. Dr. Lozanov was not forced by anyone in the Bulgarian government to make any changes in his method. If he made changes such as dropping yoga and breathing exercises, etc., it was surely because he found better ways to deliver the method.
3. The book, SuperLearning, is an outstanding book, but it is essentially based on the method as it was in 1968, and the authors have not been able to update this book, through no direct fault of their own.

4. The Lozanov Method is not linked in any way to behavioral modification, hypnosis, mind control, etc., but rather it is a method of freeing the personality while tapping and opening the resources of the mind. In other words, the converse is true of the first part of the statement.
5. LLI is not associated with any government group and is an independent organization whose Board of Directors are prominent members of the US educational and business community. Soon LLI will be changing its name to Lozanov Learning Systems, Inc. and embarking on a major business development program with the goal of upgrading its services and extending this program in a high quality manner throughout the western hemisphere.
6. LLI serves all who request its services without any reservation and from all parts of the world, and we are pleased to announce that several fine teachers are associated with LLI who formerly were with the same program in Moscow. LLI is also pleased to announce that a number of courses have recently been successfully completed in Quebec that have evoked a considerably favorable response throughout Quebec and this is helping overcome some of the concerns and problems that arose in the early 1970s as a result of an adaptation of this method by persons in Ottawa and elsewhere in Canada wherein many persons became less impressed with the method. I might add that the efforts of Dr. Jane Bancroft have been particularly helpful in this regard.

With respect to the future of this method, we foresee that this means of learning will become a cornerstone for a whole range of right-brain accelerated learning systems to be applied to such areas as:

1. Bilingual education in the public and private school systems,
2. Basic skill training (reading, mathematics, survival skills) in the public school system,
3. Gifted and talented children's programs, and also for those who are handicapped and are slow learners,
4. Special application to Esperanto and other linguistic areas,
5. Refugee training in English as a second language and cross-cultural training especially in Latin America,
6. Educational development for emotionally-disturbed children,
7. Educational and training program for children of migrant and transient workers,

8. Ease of learning rote material by adults such as medical and law students, computer programmers, etc., and also by the aged (senior citizens),
9. Broad use by governmental agencies, large corporations and even surpassing Berlitz as the dominant language learning method of the 1980s.

It is hoped that each of you will participate in some of these areas. LLI will be pleased to help you do so. It may be that the LLM is the final solution to solving the educational problems we now face, but it will probably be part of a broad whole-brain learning system to be evolved as a result of the extra efforts of those who are here today and led by outstanding teachers such as Dr. L. Hall of Howard University and Dr. L. Dhority of the University of Massachusetts, both trained under LLI auspices by Dr. Lozanov himself when he was in the US in 1979.

As for myself, when all of the above is over and done, I intend to again move into the background and carry out special futuristic R&D projects within a think tank environment, which is what I was doing when Lynn Schroeder and Sheila Ostrander (authors of SuperLearning) met me in 1969-70, and which resulted in my becoming involved in this program and in helping to bring this method of learning from Bulgaria to the US. Lynn and Sheila deserve special credit for what they have done, and I can sincerely state that if it weren't for them, I would not be here now.

Let's hope we can all explore this pathway together in a holistic and harmonious manner to meet these challenges. With the new officers of SALT, LLI is looking forward to a close cooperative effort in the time ahead, and one of good will, with the hope that through the Lozanov Learning Method, or SALT, or SuperLearning, we can all reach a higher potential of consciousness and improve the US educational system.

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Recherche scientifique et nouveau projet utilisant la méthode suggestopédique.

Ce document fournit un résumé mis à jour des points les plus importants de recherches, sources d'information de recherche sur la méthode Lozanov, et résultats de quelques programmes. De plus, une présentation des divers nouveaux projets qui utilisent l'approche suggestopédique, est donnée, particulièrement son application avec le système éducatif des Etats Unis. En conclusion, c'est une présentation sur la future perspective de cette méthode d'apprentissage et une liste des endroits où l'on peut s'attendre à ce qu'elle s'applique.

Wissenschaftliche Forschung und neue Unternehmungen mit der suggestopädischen Methode.

Diese Arbeit gibt eine aktuelle Zusammenfassung der wichtigsten Forschungsergebnisse, Informationsquellen für Forschung über die Lozanovmethode, und die Resultate einiger Programme. Zusätzlich findet man hier eine Darstellung verschiedener neuer Unternehmungen, die den suggestopädischen Lehrgang benutzen, mit besonderer Aufmerksamkeit auf die Anwendung in dem Erziehungssystem der USA gerichtet. Zum Schluß gibt es einen Einblick in die zukünftige Aussicht dieser Lehrmethode und eine Liste von Lehrgebieten, wo man eine Anwendung erwarten kann.

Investigación scientífica y nuevos proyectos usando el método Sugestopédico.

Este reportaje provee un resumen de hoy de puntos mayores investigatorios, fuentes de información sobre el método de Lozanov, y resultas de unos programas. Además una presentación de varios proyectos nuevos utilizando el acceso sugestopédico es dado, especialmente con respecto al sistema educacional en los EE.UU. En fin hay una presentación del porvenir de este método de aprendizaje y una lista de áreas en dónde se espera aplicarse.

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Influence of Music on Human Behavior*

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Abstract. The influence of music on behavior has long been a topic of interest for researchers and clinicians. Unfortunately, music often has been selected and applied using personal preference or personal history as the sole criterion. An attempt is made in this paper to demonstrate the importance of the following factors in music selection: individual response patterns, entrainment, the iso-principle and the vibrational primacy in cellular structure. Suggestions are offered for implementation in clinical practice.

"Music is an essential function of man. It influences his behavior and has done so for thousands of years (Gaston, 1968, p. 15). It serves as a means of expression and is an integral part of our daily routine. Music promotes sales of commercial products, makes driving more enjoyable and provides a relaxing atmosphere for dining out. Music adds meaning to significant ritual. A wedding, funeral, or even a football game often are accompanied by music which sets a desired mood and influences the behavior of the participants.

Music is a form of human behavior (Gaston, 1968). Definitions of music abound; although each of us "knows" what music is, a consensus as to its parameters has not been found. The elements of music--intensity (loudness), wave form (tone quality), frequency (pitch), and duration (time)--combine to give each musical work a distinctive sound. Because music exists in time, a performance heard today will never be repeated exactly. Each is unique, special.

And so it is with human beings. We have many elements; we fill many roles. Our characteristics and behaviors are physiological, psychological, sociological and often illogical. These characteristics and behaviors have innumerable possible combinations, affording each of us that uniqueness that is both our greatest strength and our most difficult obstacle.

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*Paper given at the 1983 SALT Conference.

One of the most important attributes to acquire in the process of understanding music's influence on human beings is a sense of wonder for the individual person. Once acquired, this appreciation is an effective vaccination against rampant overgeneralizations concerning music and its effects on "subjects."

A search of existing literature reveals a deficit of this appreciation for individuality of response. A small, highly select population--such as undergraduate psychology majors--is subjected to a limited screening of physiological responses to music of various "types." The responses of these subjects, once tabulated, often are generalized to include all college students, sometimes all young adults, and most certainly all music of this "type." Sometimes in the rush to overimplicate, other data are omitted that would have been valuable to future research. Humidity, temperature, diet, state of physical health, and psychological stressors all are known to affect GSR, heartrate, etc., yet these data--and most acoustical information-- which concentrate on specifics rather than generalizations frequently are omitted. I would not imply that the full responsibility for this problem lies with the researchers. We as readers who look for cookbook solutions and easy answers must share the weight.

Clinicians, too, overimplicate from the data available to them. A classic example is the practitioner who selects music based on personal preference or on what worked with previous clients. Much of this misuse is based on a lack of knowledge concerning the selection of appropriate music, not on a lack of interest in the subject.

"Ever since David played the harp to help Saul with his insomnia, and probably long before that, the influence of music on behavior has been a topic of interest" (Hodes, 1980, p. 393). Hodges' Handbook of Music Psychology is concerned with the relationship between music and other human behaviors; it devotes an Appendix to a summary of literature on physiological responses to music.

Music has an effect on heart and pulse rates, blood pressure, respiration, galvanic skin response, muscular and motor responses and brain waves. The nature of these effects is unclear at this time. Conflicting results seem to appear in the literature. Much of the apparent conflict can be explained by non-standardized definition of terms and uncontrolled variables. Much work needs to be done before researchers can claim to have an understanding of what happens to our bodily functions in the presence of music.

Music affects people psychologically and sociologically, too. Music's influence on mood responses and social situations is well known. Any researcher wishing to investigate the considerable amount of published literature regarding specific responses to music may consult the Music Psychology Index (Eagle, 1976, 1978, 1984) or contact its data base through the Music Therapy Department at Southern Methodist University.

Researchers frequently classify music into "types" and assume (with little supporting data) that the effects of all music of a particular type will be similar. A type of music often used in suggestopedic learning environments is baroque. Baroque music is usually played at 60-72 bpm, synchronizing with the body's own rhythm.

This synchronization is similar to the phenomenon in physics known as "phase-locking" of two or more objects having similar oscillatory (rhythmic) behavior. This rhythmic phase-locking was described in 1665 by a researcher, Christian Huygens, who was studying the tendency for two adjacent pendula with different, but close cycles to gradually synchronize. The human body has many independent sets of oscillators which function in a circadian, or daily, cycle. Hormones, body temperature and skin resistance all work on an approximate 24-hour cycle. This cycle can be modified by physical or social forces with similar but different rhythms. This process is called entrainment (Rider & Eagle, 1983).

An accepted explanation for the phenomenon of entrainment has to do with minimizing energy output. It seems that nature conserves energy by having periodic events of similar frequency lock phase with one another. Roederer (1974) found a tendency for the neural system to process information from a minimum of input. Similarly, music which closely matches a person's mood and physiological state requires less energy from that person.

Altshuler's (1948) iso-principle should be mentioned here. Altshuler found an effective treatment for depression and for agitation to be presenting music initially which matched the patient's mood, then gradually shifting the music in the desired affective direction. For example, if a patient entered the session in a very agitated state, the therapist would play music of an agitated quality--loud, dissonant and fast. After the patient entrained with the music, the therapist would gradually change the tone of the music to a calmer level, assisting the patient in quieting his or her own behavior.

Persons who are interested in learning more about entrainment and music are referred to a chapter authored by Mark Rider and Charles Eagle in a soon-to-be-published book edited by Evans and Clynes. The title of the book is

Rhythm in Language, Learning and Other Life Experiences. Eagle is Professor of Music Therapy at Southern Methodist University; Rider holds a similar position at Eastern Montana College. The authors may be contacted at the universities concerning this as-yet-unpublished document.

The concept of entrainment and the iso-principle have important implications for the relaxation phase of suggestopedic learning. Obviously, the optimum learning situation is one in which the learner and the learning environment are in synchrony. This synchrony cannot be accomplished by giving out magic pills, nor by a "surefire" choice of relaxing music. There are those times when a client/student comes in focused and ready to work. There also are those times when a client/student comes in distracted, depressed, angry, tired or excited. Working effectively with many clients/students over an extended period of time involves learning to be sensitive to affective states.

Sometimes quiet baroque music can calm an agitated person. People who can tune in to their heart beat by listening to the beat of Pachelbel's Canon, often can regulate their own breathing, relax their tensed muscles and free their minds and bodies to do their best work. For these people, mood matching may be inflammatory. For others, calm music is a source of irritation when they feel agitated. It is with these persons that mood matching (iso-principles) would seem to be indicated.

Implementation of the iso-principle would appear a relatively simple task on a one-to-one basis; however, much suggestopedia work is done in groups. Rarely could one find a group whose members consistently were of the same temperament. Fortunately, at least two simple solutions are available.

One solution involves training students to use Altshuler's method individually before coming to the session. With practice, intelligent adults could learn to modify their affective states in a waiting room, perhaps even in the car on the way to a session. Students could arrive at the session in a relaxed, alert state.

A second possibility would be to begin each session by asking students to become aware of their own body rhythms, then express them in dance or mime. As students began to feel satiated in expressing their feelings, they could be asked to begin modifying their responses until the optimum learning state is achieved. If appropriate audio equipment is available, a third option is viable--that of allowing each trained student access to cassette tapes of a wide variety of musics. Fairly stable students might be able to develop a music regimen that would meet their relaxation needs on most days.

All of these solutions have a common denominator: they return control of the learning environment to the individual learner. They show respect for the person's decision-making ability. Music therapists believe in helping people get back in touch with their own natural rhythm. This increased self-awareness is one of the few ways toward entrainment with the world around us. Synchrony with the outside world sometimes is expressed as sensitivity or empathy or caring--and it comes from rhythmic entrainment.

Music therapists and music psychologists view music as the great equalizer. This is not without justification in the scientific as well as artistic community. It is vibration (rhythm) that is the basis for all of existence. The vibratory pattern determines that the molecules of a particular substance form a chair, rather than a cloud.

Dr. Hans Jenny, author of Cymatics (1974), has conducted extensive experiments that illustrate the influence of sound--music--on cellular structure, the most basic of behaviors. His work has convinced him that the creative principle in the world is sound. Much work remains to be done in this vital area of research; many questions remain unanswered. Convincing evidence is available to document that appropriate selection of musical stimuli can have profound effects on behavior (Lokey & Eagle, 1982, Schmitt & Eagle, 1982). Not only does music--sound--influence behavior, it well may be the origin of behavior. Such potential power demands that music be selected with the greatest care possible.

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Influence de la musique sur le comportement humain.
L'influence de la musique sur le comportement humain est depuis longtemps un sujet d'intérêt pour les chercheurs et cliniciens. Malheureusement, la musique a été souvent choisie et prise en fonction des préférences personnelles ou de sa propre histoire comme seul critére. On essaie dans cet article de démontrer l'importance des facteurs suivants dans la sélection musicale: types de réponse individuelle, entrainement, le principe-iso et la primaute vibratoire dans la structure cellulaire. Des suggestions sont offertes afin de la rendre effective dans l'exercice clinique.

Der Einfluß von Musik auf menschliches Verhalten.
Der Einfluß von Musik auf menschliches Verhalten ist seit langem ein interessantes Thema für Forscher und Kliniker. Privatspriorität oder Privatgeschichte ist leider oft das einzige Kennzeichen für die Wahl und Verwendung von Musik. In dieser Arbeit würde versucht, die Wichtigkeit der folgenden Faktoren in der Musikwahl zu beweisen: Individuelle Reaktionsmodelle; Verladung; das Iso-Prinzip; und die Vibrationsvorrangstellung im Zellularaufbau. Es werden Vorschläge für die Einführung in die Praxis dargeboten.

La influencia de la música por la conducta humana.
La influencia de la música por la conducta ha sido un tema de interés hace mucho tiempo por los investigadores y los clínicos. Desafortunadamente, la música muchas veces ha sido elegido y aplicado con preferencia particular o historia como el criterio único. Un ensayo se hace en este reportaje para mostrar la importancia de estos factores seguientes en la selección de música: modelos de conducta particular, sincronización, el iso-principio, y la primacía vibrante en la estructura celular. Se presentan sugestiones para la implementación en la práctica clínica.

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Ego-state Reframing: One Possible Answer to School Problems

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Abstract. Three case studies are used to illustrate the application of ego-state reframing to students with school difficulties. One of these cases involves a boy with reading problems; another concerns a girl unable to study at home; and a third involves a girl constantly distracted in class. The success of the procedure is discussed with reference to Torrey's four elements of successful psychotherapy as one possible explanation of the excellent results gained.

Introduction

When a student is having difficulty at school, the action taken is usually more of the same. Should he or she be having difficulty with mathematics, he or she is often given remedial work which consists primarily of increased practice conducted along lines similar to those used in the student's normal classes. Reading problems are handled in the same way on most occasions. If the student's problem is one of attitude rather than of difficulty with a particular skill or with specific subject matter, there is little attempt made to provide assistance. Thus, difficulties relating to poor concentration, inability to settle down to study, and anxiety interfering with test performance, usually remain with a student throughout his or her school career.

It need not be necessarily so. A very simple technique combining the concepts of reframing (Bandler & Grinder, 1979) and ego-state therapy (Watkins & Watkins, 1979) has proven very effective in helping students overcome the types of problems outlined above.

Ego-state reframing

The basic idea involved in this approach is that of establishing communication with the part of the mind responsible for the undesirable behavior. It is not a difficult concept for students to accept, that each of us has different parts or ego-states within us, and these want to act in different ways. One part of us, for example, might feel it is desirable to settle down and study, another part might want to watch television, a third part might be maintaining that the subject of study is pretty useless and uninteresting, and a fourth ego-state may well be feeling sleepy, desiring to go to bed. It is as if we have a multitude of little "I's" (Ouspensky, 1957) operating within us, each one saying: "I want...." We seem to be multiple personalities with different ego-states causing us to act in ways which we do not understand. However, though we may not understand why we behave in certain ways, we are aware of being pulled in different directions, unlike the "true" multiple personality who apparently has no such awareness (Edelstien, 1981).

The process of ego-state reframing begins with the student identifying the particular pattern of behavior (X) he or she wishes to change. Communication is established with the part or ego-state responsible for that pattern by asking, "Will that part of me which causes pattern X communicate with me consciously?" In response to this question, the student will usually become aware of some sensation, a head movement, an internal tingle, a finger twitch or something else which provides an indication of communication. This sensation may be checked by asking the ego-state to repeat it if it means "yes." Once a yes response is clearly identified, a no response may be established in the same way.

Such communication, by means of ideomotor signals, is a normal part of our everyday life. Unconsciously we respond with nods and smiles to things with which we agree, while shakes of the head and frowns greet things with which we disagree. So students find nothing peculiar about this idea.

Once communication is established, a distinction is made between the actual behavior, pattern X, and the ego-state's purpose in initiating that behavior. This distinction is established with the question: "Would you be willing to let me know what you are trying to do for me with pattern X?" Should a 'yes' response be forthcoming, the part is asked to communicate its intention. This usually 'pops' into the mind quite readily. If a 'no' response is given, the ego-state's desire to keep its purpose from the conscious mind is respected, and the next step takes place.

This involves the creation of new alternative behaviors to satisfy the ego-state's intention so that pattern X can be discarded. It is assumed that while this intention may be beneficial, the means used to achieve it are no longer helpful, and need to be replaced. This is done by requesting the part responsible for pattern X to cooperate with the person's creative ego-state to provide a number of alternative ways of achieving its purpose which would no longer require pattern X. As each new alternative is generated, a 'yes' signal is given. Many alternatives may be provided, but to prevent the process from becoming too lengthy, a limitation is usually imposed so that perhaps only three new choices are requested.

Once the part responsible for pattern X has given the 'yes', it is asked: "Are you willing to use these new behaviors where appropriate so that pattern X may disappear?" Should the answer be no, it is suggested that the new behavior be given a trial for the next six weeks, four weeks, or one week until a 'yes' response is gained.

Finally, a check is made to make sure no other ego-state objects to the new behaviors. This is done by asking: "Is there any other part of me that objects to the new alternatives?" A 'yes' response means back-tracking is necessary, a return to an earlier step so that more alternatives are produced which provoke no objections.

Actually, the explanation of the ego-state reframing is more cumbersome than the procedure itself which is remarkably quick and effective, occupying only a single 30-minute session. Its application to the education problems mentioned earlier is illustrated by the following case studies.

Barry: A Reading Problem

Barry, a 14-year-old high school student was in a remedial class for poor readers. Apparently he was performing at a level several years lower than that appropriate for his age. Though his teachers felt that Barry wanted to improve, and though they used a number of different methods designed to improve his reading skills, he remained retarded in this area of his schoolwork.

In a previous article (Stanton, 1981), I have pointed out that it is often more effective to approach a problem such as Barry's from a rather different angle than that provided by conventional remedial techniques. Often a novel approach succeeds by nature of its surprise impact, cutting through the frustration of past failure as it indicates a "way out." With Barry, the novel approach I used was that of ego-state reframing.

He had no difficulty in accepting the concept of different "I's" operating within us, each being controlled by a different part of us. He was aware of wanting to read well, yet feeling that he would upset his father if he placed books ahead of physical activity, and also wanting to avoid the further embarrassment of failure in this area. Yet, despite these internal conflicts, Barry knew he would be handicapped in his life if he was unable to read fluently. Thus, he was very willing to try something new which might help him achieve this fluency.

Closing his eyes, Barry focussed his attention on the sound of my voice as I told him I would count from 10 to 0. With each count, which would coincide with his outbreath, he would be able to relax more and more until, when zero was reached, he would be able to communicate with that part of himself responsible for his poor reading behavior. The communication upon which we had decided was finger signals as that would enable me to be aware of the answers he was getting to the questions we posed. Thus, when the count reached zero, I stroked the index finger of his right hand, suggesting that should the response be 'yes,' it would lift, twitch or move in some way. However, if the response was 'no,' his second finger would provide the movement. Barry understood that he would make no deliberate attempt to move his fingers, simply asking the questions I suggested and waiting patiently for answers to be communicated.

The procedure outlined earlier in this article was followed. Barry's finger movements were jerky and hesitant, indicating that he was not moving them consciously, for such movements are usually smooth and precise. Despite some rather long pauses while we awaited answers, ego-style reframing was concluded without difficulty, three alternative behaviors being generated.

Barry changed, or at least his reading performance did. This was not sudden or spectacular, but over an eight month period, he retrieved the earlier lost ground and was reading in a manner appropriate to his age. A follow-up, twelve months after the single session treatment, indicated that he had continued his improvement and was reading at a level higher than his age average. This data on reading age level was provided by teachers at his school as I did not do the testing personally.

Maureen: Inability to Study

The problem of 15-year-old Maureen was somewhat different from that of Barry. She was the student to whom I referred earlier in the article as being torn between the need to study, the attraction of television, the feeling of study being useless, and the desire for sleep. As she was already aware of the warring factions within her, Maureen enthusiastically embraced the ego-state reframing rationale, hoping it would enable her to relinquish her avoidance of study behavior.

With her, I used the same ten to zero countdown and the same finger signals. Unlike Barry, who was told the reason for his behavior, which was to enable him to get along better with his father, Maureen received a 'no' when she asked for the ego-state's purpose in having her avoid study. Such a response makes no difference to the effectiveness of the procedure so we continued with the questioning. In Maureen's case, only two alternative behaviors were forthcoming. Apparently these were sufficient, for her study behavior improved markedly within the next two weeks. This improvement, which consisted of Maureen settling down to study immediately after her evening meal and spending a minimum of two hours in this activity, has been maintained for the fifteen months following her single treatment session.

Evidence for her better study habits is primarily anecdotal, stemming from the student herself and her parents. However, Maureen's vastly improved examination marks are another indication. albeit indirect. From a standing of 23rd in a class of 31, she moved to a position of ninth within two terms of her ego-state reframing experience. This is the most highly placed she has been in her school career. Rightly or wrongly, both Maureen and her delighted parents attribute this success to her treatment, which seems to have successfully resolved her ego-state conflicts. Maureen now spends more time studying and less time watching television and sleeping. This change in her habits has been achieved without any apparent sign of discontent. Quite the contrary, in fact. Due to her academic success, Maureen sees some purpose in her studies, finding actual enjoyment in an area where previously she experienced distaste.

Cheryl: Inattentiveness in the Classroom

Cheryl's case is somewhat different. Whereas Maureen had difficulty in studying at home, 13-year-old Cheryl found it very hard to concentrate in class. It seemed she would be distracted constantly, either by other students or by her own thoughts. Frequently, when asked by the teacher to answer a question, she would be miles away, unable to respond because she was quite unaware of the material involved.

Not only did Cheryl pay little attention to what she was being told, but she also concentrated poorly when working examples, doing tests, and reading texts. Naturally her results were not good and she regularly finished in the bottom ten percent of the class.

Unlike Maureen and Barry, Cheryl did not find the concept of different ego-states easy to accept. However, this did not prevent her making use of the technique. I suggested she simply pretend that different ego-states did exist within her mind, that she could communicate with these, and that such communication could lead to changes in her behavior. Acting as if something is true usually produces results as effective as those gained when we really believe in its truth.

This was certainly so for Cheryl who achieved what she wished, the ability to concentrate more fully in the classroom. Though she did not receive knowledge of the reason for her unwanted behavior, the reframing procedure enabled her to improve her attention span markedly. Occasionally, she would become distracted, as do virtually all students, but most of the time she was able to concentrate on the teacher's words, her own written work and her reading. These changes were reflected in better marks for most of her subjects, resulting in a position of 14th out of a class of 27 at the end of the year in which she experienced ego-state reframing. The previous year her position had been 22nd out of a class of 25.

Discussion

The beneficial changes achieved by Barry, Maureen and Cheryl are not atypical. Over a period of 26 months, out of 31 students treated in the way outlined in this article, 28 were able to relinquish behavior interfering with their school progress. In more than half of these successful cases (17), the results were quite striking with considerable improvement being noted in examination marks and student satisfaction with their school performance. The other 11 successful cases displayed more moderate gains. Three students, two with mathematics problems and one with test anxiety, apparently derived no benefit from the process.

Several teachers to whom I have taught the method have reported pleasing results when they have used it with their own students. It is interesting that three of these teachers were initially very skeptical, thinking the procedure smacked of magic or witchcraft. We are, of course, very much prisoners of our belief systems which permit us to think only in quite narrowly circumscribed ways. Thus, we tend to reject anything outside these belief systems as rubbish, usually before we even try to see if it actually produces good results. It is to the credit of these teachers that they were prepared to suspend their disbelief.

After all, it is results which count, these being more important than the theories invented to explain those results. Ego-state reframing does seem to work well, although theories to explain why may be difficult to develop. Perhaps it is nothing more than the belief/placebo/expectancy factor. Because the students with whom I worked expected me to be able to help them, and I believed that the ego-state reframing technique was an effective way of so doing, we were able to produce positive results. Torrey (1972) certainly accepted the power of this factor including it as one of four elements essential to successful psychotherapy. The other three were also present in the treatment method outlined in this article.

One of these is a "shared world view." That is, patient and therapist, student and teacher, need to work within a common framework. This is why I spend considerable time in drawing on both my own and the student's experience of being torn in several different directions at the same time. Once students can accept the rationale behind ego-state reframing, once they perceive it as reasonable and in accord with their own experience, they are well on the path to success because of the way in which their belief in a cure is mobilized.

Another of Torrey's key elements lies in the way the therapist or teacher conducts himself or herself. Personal qualities of genuineness, warmth, unconditional acceptance and empathy apparently facilitate the helping process. Use of such qualities enables establishment of rapport and cooperation as helper and helpee work together to seek a solution to the problem.

Use of a healing ritual is Torrey's final factor. According to his cross-cultural studies, the actual ritual used is almost immaterial so long as it fits into the belief system of the patient. Thus, the other factors of shared world view, a warm accepting therapist personality and mobilization of belief and expectancy of cure are seen as the important elements which make the healing ritual successful.

Yet plausible as this appears, success is possible without all these factors being present. Several students who relinquished unwanted behavior and improved their school performance as a result did not really accept the idea of communication with ego-states as being possible, and did not believe very strongly that the use of reframing would help them. Similarly, as I've mentioned previously, three of the teachers who have achieved very positive results with the method did not share my confidence in its effectiveness. However, these teachers and the doubtful students agreed to act as if they would be successful if they followed the steps of the procedure. Pretense became reality as it so often does and good results were achieved.

Ego-state reframing is a simple procedure which takes little time, yet the results produced are out of all proportion to the effort expended. Surely that in itself is a powerful reason to use it with students in difficulty.

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* * *

Restructuration du moi: une réponse possible aux problèmes scolaire.
Trois études de cas sont utilisées pour illustrer l'application de la restructuration de l'ego à des étudiants ayant des difficultés scolaires. Un de ces cas comprend un garçon avec des problèmes de lecture; le second concerne une fille incapable d'étudier chez elle; et le troisième celui d'une fille constamment distraite en classe. Le succès du procédé est traité en se référant aux quatre éléments de psychothérapie fructueuse de Torrey comme explication possible des excellents résultats obtenus.

Den Ich-Zustand wiederformen: Eine mögliche Antwort für Probleme in der Schule.
Drei Untersuchungen von Einzelfällen erklären die Anwendung vom Wiederformen des Ich-Zustands bei Schülern, die Schwierigkeiten in der Schule haben. Ein Fall handelt von einem Jungen, der Probleme mit dem Lesen hat; ein anderer von einem Mädchen, das zu Hause nicht lernen konnte; und ein dritter hat mit einem Mädchen zu tun, das im Unterricht ständig abgelenkt wurde. Der Erfolg dieses Verfahrens wird in Bezug auf Torreys vier Grundbestandteile erfolgreicher Psychotherapie als eine mögliche Erklärung der ausgezeichnet guten Resultate behandelt.

Cambiar la concepción del "ego": Una solución a los problemas académicos.
A manera de ilustración, se usarán tres casos clínicos para explicar las aplicaciones del cambio de la concepción del "ego" en estudiantes con problemas académicos. El primer caso se refiere a un niño que tenía problemas de lectura; el segundo, a una niña a la que se le dificultaba estudiar en casa, y por último, el tercer caso se refiere a otra niña que constantemente estaba distraída en clase. Los resultados positivos de la intervención serán analizados con referencia a los cuatro elementos de Torrey de una psicoterapia efectiva como la base de tan rotundo éxito.

J. of the Society for Accelerative Learning and Teaching, 1984, 9(2)

Review of Beverly-Colleene Galyean's Mind Sight: Learning Through Imaging

Priscilla Donovan

Mind Sight presents a discussion of visualization and guided imagery as teaching and counseling devices. It includes more than 100 separate imagery exercises for use in teaching vocabulary and reading, language arts, social studies, mathematics and science. Those dealing with math and science are especially intriguing and surely provoke great enthusiasm among students for these important subjects.

The book's cover promises guided imageries for people of all ages, and there is indeed something for everyone on a wide range of topics. Each exercise is followed by examples of ideas, poetry, artwork or comments that students produced as a result of the imagery experience. They are charming, amusing, touching, insightful--and demonstrate the effectiveness of Ms. Galyean's methods.

The second group of exercises called "Guided Affective Imageries" deals with emotional concerns rather than cognitive matters. Both teachers and therapists will find them useful in helping their students and clients achieve personal growth because these exercises are as innovative and practical as the book's other imageries. However, the title of this section illustrates a weakness the book suffers. It is written in a sterile manner as one would prepare a report on research. It is ironic that a method for producing innovative thought is described in such an unimaginative way. A narrative describing particular students or occasions might have made the book more readable and persuasive.

The other criticism I have of Mind Sight is a crime of omission rather than commission. The teacher/reader wants to know how to introduce guided imagery into the classroom without arousing the suspicion or ire of parents and administrators. If Ms. Galyean has never experienced opposition to her methods, she is fortunate and probably quite skillful. It would be reassuring and helpful to teachers to read just how she gained acceptance for her techniques in a school setting.

If Ms. Galyean meant to write a handbook for teachers and therapists that is very clear, concise and comprehensive, she has succeeded completely. Perhaps she will now favor us with a sequel that is more personalized and therefore more compelling. Meanwhile, she is to be thanked and congratulated for producing a complete record of her important work.

[Editor's Note: Beverly-Colleene Galyean died suddenly early in 1984. We are all the poorer for having lost a capable, enthusiastic and creative teacher-researcher. D.H.S.]

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Final Form of the SALT Method Suitable for Engineering Education in a Large College Class*

Hideo Seki
USL Director
Former Professor of Tokai University

Abstract. Instead of developing an orthodox SALT method, the author has been trying to apply it to the engineering education in a large class because of practical needs. He has repeated trial and error since 1979, and partly reported intermediate results to the 1981 Conference as well as to the Journal of SALT 6(2). At last, a very simple and efficient method suitable for large size engineering education was found and established.

Three main phases in the new method are oral lecture, sessions and elaboration. The oral lecture is quite conventional and has no need of mention. The sessions are almost the same as in the case of orthodox SALT, except the introduction of Display-Session (DS) between the active and passive sessions. The DS is unique in that no oral explanation is given during the colored OHP (overhead projector) display while playing meditation music. The breath-synchronizing signals for the active session have been successively improved since the beginning.

During the academic year of 1983, the final experiment was carried out, taking advantage of the new text book just published, Electricity and Magnetism, to lecture to nearly 400 students.

The results on the examination were excellent. For example, the achievement ratio, or the ratio of the number of students who scored over 80, to those who scored under 79 was 2.83 at the examination held on July 1983. The author believes that this form of SALT method may easily be used in any college or university where school hours per week are limited to 60 to 90 minutes.

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*Paper presented at the 1984 SALT Conference.

Introduction

Five years have passed since the beginning of the experimental project to a large number of engineering students. The lecture subject for the first two years was "Information Processing," while that for the last three years was "Electricity and Magnetism." The number of students was always near 400. But they were divided into two classes for four years. In the final year, a large lecture hall with 414 seats was completed (see Figure 1). Since April 1983, the author could use it without dividing the class. As was reported before (Seki, 1981), the author followed the Gritton-Bordon method giving suggestopedic lessons one-fifth of the time during the semester (Gritton-Bordon, 1976) and this educational system lasted four years. Finally, the concise textbook of Electricity and Magnetism by the author was published early in 1983, and that event facilitated the dramatic evolution of the large-scale SALT research helped by such an excellent lecture hall.

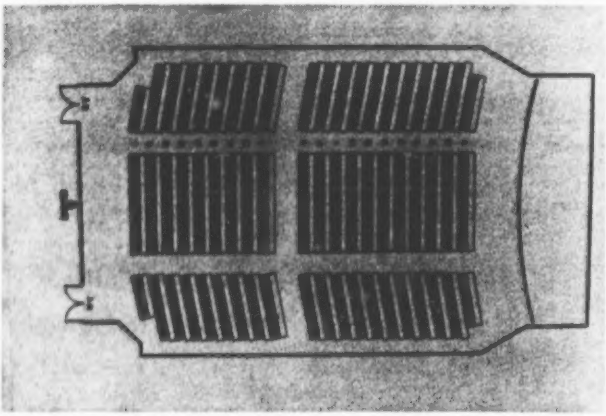

Figure 1. The classroom seating

Most of this report deals with the lesson program, OHP sheets, audio tapes and the test results.

Lesson Program

The final form of the author's SALT method may be regarded as being in an intermediate rank between the past conventional university lectures and the ideal SALT classes. Of course, the effectiveness may not be as high as the orthodox suggestopedic classes. But this system may easily be introduced to most college or university lectures. The main target here is to show the effectiveness of the SALT method by introducing the fewest factors from ideal suggestopedia to large-scale education.

No suggestive words were given in each lesson except on the first day of my lecture, which includes 28 lessons in an academic year. The suggestion given on the first day was a little bit long and was similar to the sentences referred to in the Appendix of Schuster's paper (1976). After the second day, the lesson program was put forward creating versatile atmospheres as follows:

Prelude music before opening the lesson
Oral lecture with the aid of overhead projection
Active S. (AS) with breath-synchronizing signals
Sessions Display S. (DS) with BG meditation music
Passive S. (PS) with BG baroque music
A few minutes of allegro music
Elaboration by working a few simple numerical operations
Putting each answer sheet into respective box before exit

Our school hours for one lesson are extended over 90 minutes. One lesson time is roughly divided into three parts, i.e., oral lecture, sessions and elaboration; each occupying about half an hour. Of course, the time spent for an oral lecture may be longer or shorter depending on the contents of the text sections which are convenient to conclude within one lesson. Fortunately, this time duration may be altered in some degree because the time for the display session is optional. The number of colorful, artistic, referential and suggestive pictures as well as the time duration for each exposure is free to change. No oral explanation is given by the teacher during DS, but the important points are pointed to by a whip (Fig. 2). The background meditation music in DS plays a role to create relaxed and concentrated state of the students. This state facilitates the effectiveness of the next PS in spite of omitting the suggestive words.

As preliminary music, the Japanese "koto" or Mozart's "Eine Kleine Nacht" seems good for our students. But "shamisen" music is not suitable in the classroom because of their preconceptions. The prelude music lasts from ten to fifteen minutes. The time needed for 400 students to enter or leave is over ten minutes. However, as the time for turning in answer sheets is distributed over a wide time span, the door congestion problem is avoided. Each student puts his/her answer sheet into the specified box for the respective group before leaving the room.

The students are asked to be quiet during the oral lecture and sessions while they are permitted to talk freely

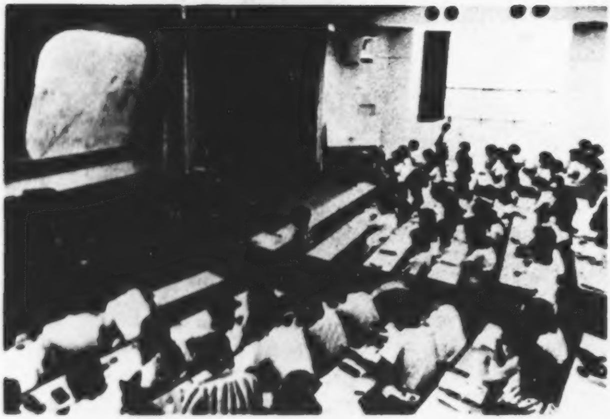

Figure 2. A pointer can be seen at lower left of the OHP screen.

Of course the figures, formulae or the key words drawn on the OHP sheets have to be understandable at one glance by the attending students. The actual technique for preparing OHP sheets will be explained later. At the same time, the audio tape for breath-synchronizing signals was gradually improved after the previous experiment (1981) and the new technique will also be given later.

Over Head Projector Sheets

I have used about 4 meters of roll sheet and about 4 pieces of mono-sheets (each 27 x 22 cm^2) once a week. The OHP projector was an Elmo Solar HP-2450 with a short arc metalhalide discharge lamp (575 W). The image projected on the screen ($3x4m^2$) was visible clearly from the rear seats in the lecture hall (Figs. 1 and 2).

The OHP image not only helps teachers' oral explanations, but also plays an important role of suggestions in the lesson program. So the drawn pictures and the written letters must be artistic as well as easily understandable. In my lecture of "Electricity and Magnetism," I used a red, dry, oily pen for expressing:

electric lines of force
electric current
electric fields
electric circuits, etc.,

and a blue pen for expressing:
magnetic lines of force
magnetic materials
magnets

magnetic fields, etc.

throughout the whole course. Besides red and blue, many other colors were used for drawing OHP transparencies.

The simple colored figures may further assist the understanding of the mathematical meaning of the formulae rather than just discussing the monotonous, lengthy arrangement of them. The pictures used for DS may be a classical portrait of a famous scientist, color slides of actual instruments, simplified models of phenomena, or landscapes which have some relationship to the lecture. However, all these demonstrations act as suggestions so as to retain the subjects in the memory of the students.

About 20 sentences were read with three-step intonation in active and passive sessions in each lesson. These sentences were also written down on the roll sheet and shown during the AS while they were turned off for the PS.

Of course the students are allowed to relax and have no need of taking notes during explanations and sessions.

Preparation of Audiotapes

I feel no need of mentioning here the music tapes. But I felt for a long time the need of breath-synchronizing signals, especially for large-size classes because of the weakness of teachers' influence. At first, I proposed 100 Hz-1 kHz tones and used them for a while. The comments on such signals were directed to the strong stimulation and the anti-relaxing mood. So, for the last two years, I use stream sounds of a natural brooklet for such signals, because they give us a nice feeling, and have a good psychological effect if their energy density spectrum obeys the law of l/f fluctuations. The details will be shown in the Appendix. Voss (1978) of Bell Laboratories has found that most of the baroque music follows the l/f law. It may be very difficult to generate accurate l/f law sounds, because the actual projected sounds depend on the frequency response of the players, loud speakers and even on the acoustic features of the room. However, the results were relatively good, according to our experience. The sound intensity was gradually decreased until the middle of 5 seconds and then increased; there was a 5-second pause between successive sound trains. In other words, each noise sound train has a noticeable dip at the middle point. At this dip, the students had to turn the breath from exhale to inhale. The modification of the pause-breath-time from 4 to 5 seconds came from wanting enough reading time by the teacher and also easy breathing for the students.

Test Results

One academic year is divided into two parts, first half and latter half. The examination was conducted at the end of each half course. The questions given at these examinations were of almost the same easiness as the examination on February 21, 1984.

As the easiness of the questions was almost the same, we can evaluate the effectiveness of suggestopedia by the score distribution curves. From the results of six examinations in three years, the author selected three typical distribution curves in Figure 3.

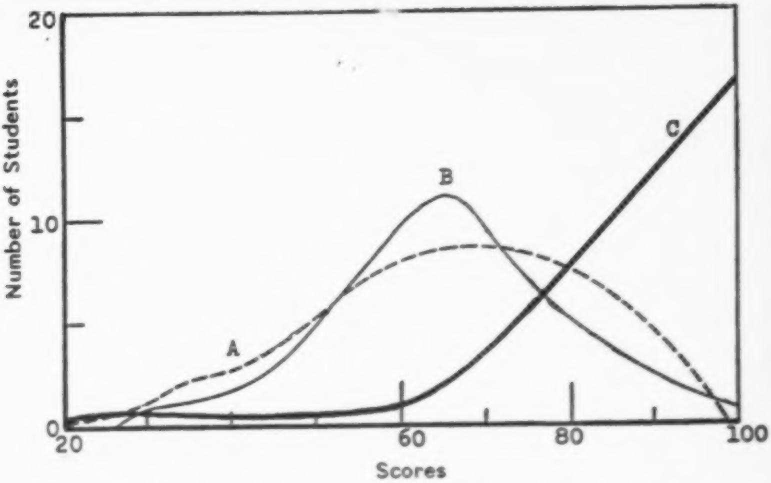

Figure 3. Typical test results (A: No text, Feb. 4, 1983; B: With text, one hard question, Feb. 21, 1984; C: With text, conventional questions, July 19, 1983)

Curve A shows the case with no textbook and almost without suggestopedia, because most of the time was spent in taking lecture notes. Curve B shows the case with suggestopedic lessons using the textbook, but one of four questions was a hard modified mathematical problem which required some new considerations in the examination room. This problem was given so as to test how creativity developed. Some students solved this difficult question, but most of them failed to solve it. This result means that the enhancement of creativity in such a large-size class was not fully satisfied, though it may not be impossible. Worse, that question gave negative suggestion to the examinees in answering the other, easy questions, because it was put at the top of four questions. Curve C shows the case with suggestopedic lessons with textbook and all problems were conventional easy questions. The number of students who got higher scores increased remarkably and. conversely, those who got lower scores decreased. This tendency may be expressed by two simple figures, i.e., achievement ratio (AR) and failure rate (FR). AR means the ratio of the number of students with test scores over 80 to those under 79, while FR means the ratio of the number of students who received scores under 59 to total examinees. The results of all examinations on "Electricity and Magnetism" were tabulated using these figures in Table 1.

Table 1

Results of Examinations

		1981-82	1982-83	1983-84
Achievement Ratio	First half	0.62	1.18	2.83
	Second half	0.29	0.66	0.24 (5.75)
Failure Rate	First half	22.8%	15.9%	6.7%
	Second half	36.0%	41.5%	27.0% (5.5%)
	Final	15.4%	15.8%	7.3%

In the table, the figures inside the brackets show simply corrected data, under the assumption that, if all questions were equally easy as before, the result of their scores might have been shifted about 25 points higher than the original one. In spite of the poor record at the latter half in 1983-84, we can clearly notice the contribution by SALT on the score distribution curves, e.g., the remarkable decrease of inferior students, its higher peak at the middle of the curve versus that of 1982-83 and the low final failure rate 7.3%. The low final FR means that some of the students who received lower scores at the latter half have got already higher scores at the first half and vice versa. Furthermore, the effect of SALT may also be noticed by the mean score improvement tendency on the low attendance rate as shown in Table 2.

It is clear that the scores associated with below 50% attendances were nearly the same during the first and latter half courses. On the other hand, the students who were absent more than 50% did not try to attend the examination in 1981-82 or 1982-83 when there was no textbook. After all, the relation between the mean test scores and the attendance rate may be qualitatively shown by Figure 4, where the marks A, B, and C correspond to those of Figure 3. In the curve A, abrupt score drop at attendance

Table 2

Mean Scores versus Attendance Rate in 1983-84

	Attendance Rate:	0	25%	50%	100%
Mean Scores:	First half	25	43	62	95
	Second half	20	41	55	65

rate 50% may be expected because of the incomplete lecture notes when the number of absent times exceeded some limit. Actually those who were absent over 50% almost always avoided the examination.

Conclusions and Acknowledgments

The SALT method for a large college class has been almost established in final form after five years of experiment. Careful study shows at least a considerable improvement in examination scores, though the enhancement of creativity was not remarkable.

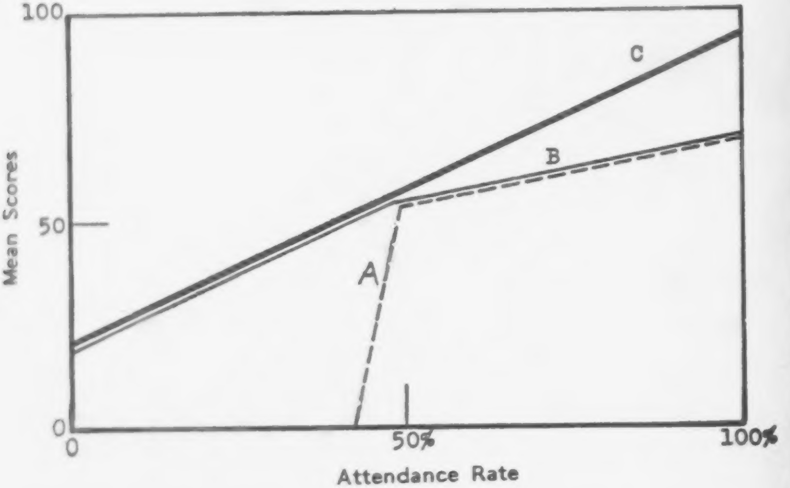

Figure 4. Qualitative effects of attendance rate: A = no text, Feb. 4, 1983; B = with text, one hard question, Feb. 21, 1984; C = with text, conventional questions, July 19, 1983.

The author expresses his gratitude to the staff of the Tokai University, especially for the help of Professors Matsumoto, Ebina and Okada throughout the whole lessons in 1983-84.

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APPENDIX

1/F Fluctuations

All natural phenomena are continuously varying with the time, or their magnitudes are functions of time. By the development of computers, it became easy to transform time functions to frequency functions, i.e., a computation of energy within a limited time and within a unit frequency band width at each frequency. This expression is called the spectral density of fluctuation as a function of frequencies. We must be careful to distinguish frequency vs. frequency band width. Power within a unit frequency band width is called power density and this quantity depends on the frequency. The power density spectrum may sometimes be uniform over all frequencies ($1/f^0$) as in the case of white noise generated at the terminals of pure electrical resistance. On the other hand, it may sometimes be proportional to 1/f as in the case of low frequency noise in vacuum tubes. This phenomenon was first observed by Johnson in 1925. In some rare cases, the fluctuations obey the $1/f^2$ law, but it is mysterious that most of the natural and artificial phenomena follow the 1/f law, for example, the voltages or currents of vacuum tubes, diodes and transistors; the resistance of carbon microphones, semiconductors, metallic thin films and aqueous ionic solutions; the frequency of quartz crystal oscillators; average seasonal temperature; annual amount of rainfall; rate of traffic flow; potential difference across the resting membrane of myelinated nerve fibers; running water sounds of mountain streams; sound intensities of baroque music (Voss, 1978) and so on.

On the other hand, by passing white noise ($1/f^0$) through special filters, we can get either 1/f or $1/f^2$ noise. Voss (1978) automatically composed music by a computer using these three kinds of noise ($1/f^0$, 1/f and $1/f^2$) and found that the several hundred people judged 1/f music to be far more interesting than either the white music or the $1/f^2$ music. He also has shown that Bach's First Brandenburg Concerto follows the 1/f law in the frequency range between 10^{-2} and 10 [Hz]. The author has found that the "Spectrum Suite" follows $1/f^{4,23}$ as a weighted mean over the frequency range 7.8×10^{-3} [Hz] to 4 [Hz] and in extended time over 44' 10", in cooperation with Dr. Kosugi's computer analysis. According to this analysis, the frequency characteristics of the energy densities depend on the time span and the frequency range as shown in Table 3. In this table, the figures mean the power of f. It is usually said that the medium frequency band has the most close relations with the hearer's psychological state. Among them, 1/f law music effectively induces relaxed conditions for two reasons (1983). Firstly, the time correlations of 1/f fluctuations are extended over a wider range than those of $1/f^0$ or $1/f^2$ fluctuations. This means that its present behavior is strongly influenced by its entire history. As the human remembers the past, he will not be surprised by the present or future events, as far as these have correlations with the past. Secondly, within a limited time span, each frequency component stimulates our auditory nervous system uniformly. In other words, special nerve fibers out of a large number of auditory cells need not be overworked within a given time span. The reason why the author has chosen brook current noise as a breath-synchronizing signal comes from this theory.

Table 3

Computer analysis of "Spectrum Suite"

	Time	Frequency Range*		
	Span	Lower Band	Medium Band	Higher Band
Side one				
1. Keynote C: Red	2'45"	0.32	0.48	1.94
2. Keynote D: Orange	2'40"	1.17	1.43	2.07
3. Keynote E: Yellow	3'20"	1.22	1.85	1.79
4. Keynote F: Green	3'40"	0.95	1.67	1.54
5. Keynote G: Blue	3'50"	-0.32	1.17	1.87
6. Keynote A: Indigo	4'00"	-0.83	1.20	1.83
7. Keynote B: Violet	4'30"	-0.26	1.22	1.67
Side two				
1. Be-Muse-ment	4'30"	-0.26	1.40	1.00
2. Trans-Pan Dance	8'20"	-0.34	1.66	1.50
3. Rainbow Raga	6'20"	0.55	0.25	1.87

*Lower Band: 7.8×10^{-3} to 6.25×10^{-2} [Hz], Medium Band: 6.25×10^{-2} to 0.5 [Hz], Higher Band: 0.5 to 4 [Hz].

* * *

Forme finale de la méthode SALT adaptée à l'éducation d'ingénierie dans de grandes classes de collège.

Au lieu de développer une méthode orthodoxe SALT, l'auteur a essayé de l'appliquer à l'éducation d'ingénierie dans de grandes classes en raison de besoins pratiques. Depuis 1979, il a répété essai et erreur et a partiellement présenté des résultats interédiares à la conférence de 1981 ainsi que dans le Journal SALT 6(2). Cependant, une trés simple et efficace méthode adapté à l'éducation de l'ingénierie à l'intérieur de grandes classes a été enfin trouvée et établie.

Dans la nouvelle méthode il ya trois phases importantes: cours oral, sessions et élaboration. Le cours oral est entiérement conventionnel et n'a pas besoin d'être mentionné

Les sessions sont presque les mêmes que dans le cas de SALT orthodoxe, à l'exceptión de la nouvelle introduction de la sessions de déploiment (SD) entre les sessions actives et passives. La SD est unique du fait qu'il n'y a pas d'explication orale de donnée durant le déploiment coloré OHP pendant que l'on joue de la musique de méditation. Les signaux de respiration synchronisée pour la session active ont été successivement améliorés depuis le début.

Durant l'année académique 1983, l'expérience finale fut appliquée en prenant l'opportunité d'exposer, à presque 400 étudiants, un nouveau livre juste publié "Electricité et Magnétisme."

Le résultats de l'examen furent excellents. Par exemple, le quota de réussite, ou le quota du nombre des 'étudiants ayant eu pour score plus de 80 par rapport 5 ceux ayant eu moins de 79 fut de 2.83 à l'examen de Juillet 83. L'auteur croit que cette forme de la méthode SALT pourrait être facilement utilisée dans n'importe quel collège ou université où les heures de cours hebdomadaires sont limitées à 60-90 minutes.

Eine endgültige Form der SALT Methode, der Ausbildung im Ingenieurwesen in einer großen Collegeklasse angemessen.

Statt eine orthodoxe SALT-Methode zu entwickeln, hat der Autor wegen der praktischen Bedürfnisse versucht, sie in einer großen Klasse für die Ausbildung im Ingenieurwesen anzuwenden. Seit 1979 probiert er die Methode aus. An der 1981er Tagung, sowie in der *Journal of SALT*, 6(2) berichtete er zum Teil über seine Zwischenresultate. Jedoch wurde eine sehr einfache und wirkungsvolle Methode endlich gefunden und festgesetzt, die den großen Klassen in Ausbildung für Ingenieurwesen paßt.

Die drei Hauptphasen der neuen Methode sind: mündlicher Vortrag, Sitzungsperioden und genauere Ausarbeitung. Der mündliche Vortrag ist sehr konventionell und braucht nicht erwähnt zu werden. Die Sitzungsperioden sind fast gleich der orthodoxen SALT, außer der neuen Einführung von der Demonstrationssitzungsperiode (DS) zwischen den aktiven und den passiven Sitzungsperioden. Die DS ist einzigartig, insofern als keine mündliche Erklärung während der Demonstration mit dem Overheadprojektor gegeben wird. Bei der Demonstration wird Meditationsmusik gespielt. Die Synchronsignale für das Atmen in der aktiven Sitzungsperiode wurden auch seit dem Beginn des Versuchs immer mehr verbessert. Während des 1983er adakemishen Jahres wurde der letzte Versuch gemacht, worin die Gelegenheit ausgenutzt wurde, über "Strom und Magnetismus" aus dem soeben erschlienenen neuen Lehrbuch einen Vortrag für 400 Studenten zu halten. Die Prüfungsresultate waren ausgezeichnet. Das Leistungsverhältnis, oder das Verhältnis von der Zahl der Studenten, die über 80 erzielten, war, z.B., zu denen, die unter 79 erzielten, 2.83 bei der Prüfung, die im Juli, 1983 gehal-

ten wurde. Der Autor glaubt, daß diese Form von der SALT Methode in irgendeiner Hochschule, wo die Unterrichtsstunden pro Woche auf 60-90 Minuten begrenzt sind, leicht verwendbar ist.

Forma definitiva del método SALT para la educación de ingenieros en un salón de clase numeroso.

Debido a necesidades prácticas el autor ha tratado de aplicar el metodo SALT a la educación de ingenieros en una clase numerosa en vez de desarrollar el método SALT en forma ortodoxa. El autor ha usado ensayo y error desde 1979 y reportó los resultados parciales en la conferencia y la revista de SALT 6(2) en 1981. A fin de cuentas un método sencillo y eficiente para la educación de ingenieros en un salón de clase numeroso se ha establecido.

Las tres etapas del nuevo método son las siguientes: lectura oral, sesiones y elaboración. La lectura oral se hace de la manera usual, y por tanto, no hay necesidad de elaborar sobre la misma; las sesiones son casi idénticas que en el SALT ortodoxo excepto por la introducción de sesiones de exposición (display sessions DS) entre las sesiones pasivas y activas. La exposición (DS) es especial pues no hay explicaciones orales durante la exposición en color del OHP sino que es acompañada por música para meditar. Las señales de respiración sincronizada para la sesión activa también fueron continuamente mejoradas desde un principio.

El experimento final se llevó a cabo en 1983 en un grupo de 400 estudiantes llevando un curso de "Electricidad y Magnetismo" y usando un libro de texto recientemente publicado.

Los resultados obtenidos en los exámenes fueron excelentes. Por ejemplo el radio de logro en el exámen de julio de 1983 fue de 2.83. (El radio de logro es definido como el número de estudiantes que obtuvieron una calificación de más de 80 dividido por el número de estudiantes que obtuvieron menos de 79). El autor es de la opinión que este tipo de método SALT puede usarse facilmente en cualquier universidad en donde las horas de clase por semana sean de 60 a 90 minutos.

J. of the Society for Accelerated Learning and Teaching, 1984, 9(3)

Low Budget Introduction of Elementary Accelerative Mathematics*

Bruce Tickell Taylor

Abstract. The author describes how he got started using accelerative learning methods in teaching spelling and arithmetic in California public schools. A number of suggestions are given for teachers wanting to start teaching with this method on a bare bones budget, if any. Many general useful suggestions are also made for spreading SALT.

Introduction

My background is international. I was born in Korea and educated in both America and England. I returned to America in 1940 to study mining, however, World War II engulfed the family gold mine in North Korea. I became a soldier and later, a teacher in California.

In the 50s I was exposed to progressive education. In the 60s I started a British school in San Francisco. Ten years later I introduced Trachtenberg Arithmetic to the Windsor, California School District. In the 80s at age 60 I started to use SALT in my teaching with Dr. Lozanov's learning method.

Explanation of terminology

To enliven this article, I have coined some phrases and borrowed some expressive ideas from this year's Murphy's Law Calendar.

An ant trail, is what I call the daily distraction, all too prevalent in California public schools, of student body announcements, cake sales, popcorn for good little kiddies, pull-out programs for speech, reading, music, etc. ad infinitum.

A SALT shaker, is one who shakes a little SALT knowledge to enhance learning in his or her class.

A SALT cellar, is a readily available source of SALT information to enhance the widespread use and distribution of this Lozanov method.

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*Paper presented at 1984 SALT Conference in Houston, Texas.

Background of the method

I first read of Dr. Lozanov in *Psychic Discoveries Behind the Iron Curtain*. Then even more in *SuperLearning* by the same authors, Ostrander and Schroeder. This led me to LIND (Learning in New Dimensions) then to SALT.

First use of the method

An old story has it that to catch a bird you have to put salt on its tail. I started to SALT my birds (students, that is) following a one-day seminar with Charles Schmid of LIND in San Francisco. Two days later, when school started for the fall, I put the LIND methods to use in my class. This brings to mind Horowitz's Rule from Murphy's Law, "Wisdom consists of knowing when to avoid perfection." After all, a grain of SALT added to the usual routine teaching greatly enhances the flavor and the learning, I soon found out.

Lacking suggestopedic texts, I limited my advances in Lozanov learning to spelling and the multiplication tables as being the easiest to adapt to the method.

That year, I had the lowest of the four 5th grade classes in the school. But when my class took the annual Stanford Achievement Test, they were one year ahead of the top class in spelling. Also, I found that my students learned their tables far faster than any class that I had ever had before. I knew I had a winner.

Funding

If you can secure government, state or foundation funds, fine. It's like manna from heaven, and you can perform miracles. Paradise School District of California did this, which was, of course, appropriate from its name. Windsor School District, also of California, did not. They had but one prophet crying in the wilderness of teachers' inservice workshops: "Prepare ye the way of Dr. Lozanov." And nobody listened to me. "A prophet hath no honor in his own country."

But wait! I did have an angel! Every church, a priest once told me, needs an angel. They are very handy to lonely prophets, too!

My academic angel arrived in the district the year I started to SALT my classes. He was Norman Ginsberg, our new District Superintendent. He was amazed that a teacher so close to retirement would become interested in a new way of learning. At such a time, many are inclined to sit on their...laurels and slide. He encouraged me every way he could.

I was granted time off from classes to visit other suggestopedic teachers and their classes in other school districts, attend another LIND seminar, go to the Ft. Collins SALT Conference and even to go to Paradise! School district, that is.

I was further encouraged to conduct a number of workshops in the method for teachers in the Windsor School District. No takers among the teachers. But later, two aides took one day LIND seminars. I struck pay dirt when my last aide, and natural born teacher, Karen Harris, who is training to be a teacher, took Charles Schmid's teacher-training course last summer.

The total cost to the district for my various advances along the SALT trail was about $260 altogether; most of that being for substitutes when I was away from school. I paid for transportation and fees for the most part, as these are tax deductible as educational expenses.

Advancement of the method

During the first year of Lozanov learning in the Windsor School District, I used the Tension-Relaxation Exercises and the tape from SuperLearning, plus all the LIND methods I could contrive to get in, in the limited time available. I used the tape until the case fell apart and wrote to Super-Learning, Inc. in New York for another one. I mentioned our success in spelling. Since then, I have exchanged a number of letters with Lynn Schroeder, one of the co-authors of SuperLearning.

During this early phase, the local Healdsburg Tribune, and then the local television station, KFTY of Santa Rosa, both ran features on "the spelling class that lay on the floor to suceed in spelling." This goes to show that if, despite the odds, one person keeps trying, in time others will take notice of what you are doing. The newspaper and TV station helped to spread the word. It is better to light one candle than to curse the darkness, and better to try one small segment of this marvelous method than to wish you had more training or money to use it.

After three years trying on my own, I was able to go to Paradise and bring back to our School Board, proof that others found that the method really worked. Roy Applegate, whom I had met at Ft. Collins, invited me to a Visitation Day at the Paradise School District. On my return to Windsor with the facts I had gleaned, I felt rather like an ancient prophet descending from the mountain with the Tables of the Law.

For several years, I had reported to our supportive school board of my progress in the method and of my annual travel plans to enhance my social studies and science background. This year it was to Australia and New Zealand.

Factors hindering advancement

The ant trail of daily interruptions goes on without regard to your lesson plans or what you are trying to teach. I think that this is one of the reasons we get a lower rate of increase in learning with the method than do European schools where there are no such distractions. Of course, in conventional teaching, which tends to be rather boring, such distractions are a welcome relief to the students. Not so with Lozanov learning! Yet, despite the distractions, one can produce amazing results. But how much more could be accomplished if the distractions were eliminated? I wanted to go all the way: use the method, not just little bits of it. Also, lacking suggestopedic texts for my elementary school subjects, I needed time to write my own. But here the plethora of trivia, common to public schools in this state, at least, prevented this. There never seemed to be time for something over and above the daily round and common task.

I decided to give myself the time by retiring a year early to found the Accelerative Tutoring Institute of Santa Rosa, California.

Further advance

Now I was free to develop texts, tapes, demonstration classes and seminars to advance the method, and I was free to do my SALT shaking when and wherever I chose.

As I advanced in this phase, another Murphyism came to mind: "The solving of a problem lies in the solvers." When I announced my retirement, my ever-ready academic angel, Norman Ginsberg, came forth with the suggestion that I become consultant in accelerative learning to the district.

I would teach 50 periods of elementary mathematics during the year and write the needed suggestopedic text. In addition, for those teachers desiring them, I would show slides of my travels from Alaska and Hawaii to Britain and France. All school equipment and supplies would be available to further my work.

I remarked that my travel plans had been set to go "Down Under" in the spring, which is in October. No problem! I could adjust my teaching to suit myself.

I devised a plan to put the majority of my teaching before the annual Stanford Achievement Test in March. I would teach for a month in September, starting with whole numbers. Then my superb former aide, Karen Harris, would review the math facts with suggestopedic techniques learned from her recently completed course with Charles Schmid. This she would do during October, as she was now aide to the teacher who took over my former classroom. On my return in November, I would go on to fractions, decimals, etc.

Here at last was the chance to write the desired text and add another factor to the multi-modal learning. For the math story, written to fit materials to be learned, would be based on my trip and I would have slides of the actual places that the story and the mathematical problems were about!

The math story is about two children who are given the opportunity to travel to distant lands. They chose Australia and New Zealand. The problems used are derived from actual costs and places visited. The slides of these places are used to enhance the Activations section of the lesson.

The children in the story are those of my friend Karen and another teacher, also interested in the method, who is a neighbor of mine. However, in October, the children stayed in school and my wife and I substituted for them! (See excerpt on the following page.)

Prior to leaving, I planned the entire year in detail and time of the lessons. I made agreements with all concerned that for the one-hour suggestopedic classes, the ant trail would be suspended. Knowing all to be in order, I headed for the South Pacific on a Flying Kangaroo of Qantas Airways.

I have teacher friends and relations the world over and about a dozen of the former "Down Under." I spread the word of this wonderful method and sent the names of those interested to ALSA, the Australian equivalent of SALT.

I demonstrated the method at the St. George's Christian School in Bexley, New South Wales in my friend Larry Lee's class. I had known Larry and his wife Beth in California.

On return home to California, under a mountain of mail, I found Kay Herr's request for proprosals for the 1984 SALT Conference. I didn't have time to even think of a subject, let alone write about it, I thought.

Several days later, however, it occurred to me I did have something to say. Most of the rest of you teach languages in high school and college. Those whom I have met in elementary schools have secured large grants, as Roy Applegate managed for Paradise School District. What about

Excerpt from the Australia-New Zealand Math Story

Subtraction of Whole Numbers

925 - Minuend
-476 - Subtrahend
___ ?

RYAN: Referring to our trip to Australia, suppose you have 925 kangaroos in Lone Pine Koala Sanctuary outside Brisbane. Then 476 of them jump over the fence. How Many do you have left?

KRISTIN: Just write 925 (the MINUEND) with 476 (the SUBTRAHEND) below it.

HTU
925
-476
9

RYAN: Right! And make sure that, starting from the RIGHT, the Units,

Tens, and Hundreds are all lined up directly under each other.

KRISTIN: Now, subtract, but you can't take 6 from 5, so you borrow 1 from the TENS column 15 - 6 = 9

925
-476
49

RYAN: Right! Now in the TENS column, you have 1 - 7 = ? (Remember you borrowed 1) so you borrow again, this time from the HUNDREDS column. So 11 - 7 = 4

925
-476
449

KRISTIN: As you borrowed 1 from the HUNDREDS column, you now have 8 - 4=4. So our problem is solved! 925 - 476 kangaroos = 449 left in Lone Pine Koala Sanctuary. That's all there is to it!

RYAN: Not quite! Remember what our teacher said?

KRISTIN: Yes, of course! ALWAYS CHECK YOUR ANSWERS! But how?

476 (Subtrahend)
+449
925

RYAN: Simple! Just add the REMAINDER (449) to the SUBTRAHEND (476) 449 + 476 = 925. If the SUM (Addition of two or more numbers) equals the MINUEND, the answer is right!

KRISTIN: Also remember, ALWAYS WRITE NEATLY! Check what you copied down. BE SURE YOU UNDERSTAND THE PROBLEM, before you try to solve it.

RYAN: Later, in ACTIVATIONS, we'll see some pictures of our trip to Australia which shows the Lone Pine Koala Sanctuary and some of the animals we saw there.

introducing accelerative mathematics on a low budget? That's what I had been doing. As I thought about it, I could, with assistance of my efficient former aide, Karen Harris, give the results of pre- and posttests, and graphs of comparisons with non-suggestopedic classes. I could show a nice scientifically ordered experiment. Anyway, I had ten days to write the proposal. To be quite sure on the point, I looked at Kay's letter again. It had been sent when I was in Australia. I had one day left! I wrote the proposal anyway, and sent it off by Express Mail.

I sailed down to the school a few days later, secure in the belief that in the unlikely event Kay would accept my idea, it would be duck soup to write it up.

Murphy's Law strikes again!

"If anything can go wrong, it generally will." And I might add, at the most inconvenient time, when you have just gone out on a limb. Duck soup indeed! The duck was in the soup! I didn't know that until I walked into the classroom. Then I found...

The ant trail was back. Karen had had to advance her knowledge of the lower grades by moving to a kindergarten. The new aide knew nothing of how to SALT for success in learning. All the standard distractions were back and I had but a fraction of the class to deal with. As there was no alternative, I dug into my past as a soldier in World War II.

The Guadalcanal theory

"Do what you can with what you have got." I developed this idea on the beaches of the Solomon Islands. While I was there, I found that if I looked around enough, I could usually find some solution to my problems. Mr. Murphy puts it a different way: "If you have lemons, make lemonade."

Kay's acceptance did come, so I had to find something useful or back out, which I dislike doing. I kept on with the method and tried to devise ways to reach the missing members of the class. Some of these were: a clarification of the metric system; tapes to enhance home learning, both in preparation for school and for learning math facts tables; plus other devices to clarify aspects of elementary mathematics. Details of these will come out when my text is published.

Another advance occurred when I tried using subliminal tapes put out by Robert Griswold of Effective Learning Systems of Edina, Minnesota, especially his tapes "Effective Studying & Test Taking" and "Self-image Programming." An adult who borrowed the former reported remarkable results on a college test she had to take.

Sheer persistence paid off. Other teachers, knowing I had retired last year, were curious as to why I kept coming back and conversations led to requests for demonstrations of the method in their classrooms.

More improvements were added by academic angels. First my superintendent friend suggested that once the SAT tests were over (subsequently extended to April), I should use the remaining periods to demonstrate the method in the classes of teachers requesting it.

Next I received a phone call from a teacher a hundred miles away requesting more information on the method and a demonstration in his 2nd/3rd grade classroom in Stockton, California. My other academic angel, Lynn Schroeder in New York, had told him about me. Lynn has put me in touch with others around the state and as far away as Alaska. This brings to mind another device to enhance the use of the method for all of us in and out of SALT. Namely the SALT cellar. It would enable those of us who travel to find like "SALTed spirits" around the world and those who would like to learn more of what we, the SALT of the educational earth, are talking about. I'll first list the items I have found useful for advancing accelerative learning on a low budget, then conclude with suggestions for the SALT cellar.

Items learned from the workings of Murphy's Law

1. If you can get funds--federal, state or foundation--fine! Use them. You can go further faster. There are said to be lots of foundation funds that go begging for lack of applicants.
2. If you can, pre-train your teachers before you start a class.
3. If you can't, go ahead anyway, but pick those open to new ways and have a positive attitude in their teaching.
4. Make a definite time for accelerative classes that are free of the ant trail.
5. Insist on only positive suggestions during the class period.
6. Negative comments on the method or the children should be reserved for an evaluation period when the children are not present.
7. During a demonstration, the demonstrator has sole charge of the class. Any trouble-makers can be quietly removed by the homeroom teacher.
8. If possible, have alternative teachers and classes in case the first one cannot adapt to the positive approach.
9. Prior to any lessons in actual learning, give a number of periods in which relaxation and visualization methods are shown.

10. Another pre-class preparation can be done at home using the subliminal tapes of Effective Learning Systems of Edina, Minnesota.
11. Multiplication tapes from SuperLearning, Inc. of New York, can help prepare a child for proper learning of tables at home. Or you can make your own tapes in mixed order, which I find effective.
12. Accelerative classes could be formed on a pull-out basis for selected students, times and teachers if there is no other way.
13. Single unit portable buildings are often better than conventional classrooms, as there are less distractions from other classes, and often no built-in inconveniences such as public address systems.
14. Carpeted floors are nice to relax on.
15. Easily movable desks for arrangement in a semi-circle are an asset.
16. Provisions should be made for blacking out the room for slides and walls should be able to take thumbtacks for posters to enhance the multi-modal effect.
17. Provide teachers with time to do the much longer planning and text writing needed.
18. If you can find a retiring or retired enthusiastic teacher, get him or her steamed up on SALT and hire them as consultants; it will cost a lot less! Let them use school supplies and equipment.
19. Administrators: Be an academic angel to your SALT teachers; it does pay and your school children will enjoy learning.
20. Point out to your SALT shakers that their expenses are tax- deductible. If you can, give them salary increments for their studies and conferences.
21. Encourage the exchange of information between your SALT teachers and others outside your district.
22. If you cannot find the ideal teacher, class, classroom or get enough training at first, just start anyway. A few crumbs are better than total starvation! Experience is the best teacher!

SALT cellars

High budget, low budget, no budget SALT shakers and other interested people could use SALT cellars. As I mentioned at the beginning, this is a readily available source of SALT information.

For a start, I would suggest that each of us here at this conference in Houston, pool what we know of sources of SALT information and related sources that bear on what we are doing. Then, fairly rapidly, a useful directory of not only members, which can be obtained from SALT's membership list, but of the many kindred organizations and suppliers can be assembled for the use of all.

I would further suggest completed SALT cellar directories be not only made available to members, but placed in libraries and colleges in various places around the country and the world.

I have found that I have been acting as a very inefficient source of SALT information to people all over the world; from Australia to Britain in one direction, and Alaska to Zimbabwe in another. So, it occurred to me that if each of us were to pool our knowledge, we could soon have a very useful source of information which I have whimsically called a SALT cellar.

Several members whom I have written to around the world have thought it a good idea, so with their encouragement, I pass it on to you.

As I mentioned before, it would be useful for those who travel and those who have just vaguely heard something about SuperLearning and would like to learn more.

I have put together a tentative suggestion on the categories that it might cover, and have listed a few of the names and addresses of members and kindred organizations I happen to know. Doubtless, you'll have more and better organizational ideas than what I have here. But it may get the ball rolling.

I would suggest we start off with organizations around the world such as SALT, SEAL and ALSA which disseminate knowledge about the method. Then progress to those who teach it, and so on.

Sample format for the "SALT Cellar" Directory

1. Suggestopedic societies
    - a. SALT:Society for Accelerative Learning and Teaching, Box 1216 Welch Station, Ames IA 50010
    - b. SEAL: Society for Effective Affective Learning, Michael Lawlor, Forge House, Kemble, Near Cirencester, Glos. GL7 6AD England
2. Schools of methodology
    - a. LIND Institute (Learning in New Dimensions), Charles Schmid, 2470 15th St., San Francisco CA 94102
3. Foreign language schools
    - a. LIND Institute (see above)
    - b. Ecole Francaise de Suggestopedie, Fanny Saferis, 44 Rue Henri Barbusse, 75005 Paris France
    - c. Michel Daudin, 1903 Broderick St. #4, San Francisco CA 94115
4. Consultants
    - a. Expanded Learning, Diane Davalos, 125 W 2nd Ave, Denver CO 80223.

   b. Accelerative Tutoring Institute, Bruce Tickell Taylor, 4234 Mt. Taylor Dr, Santa Rosa CA 95404
5. Tutoring establishments
   a. Accelerative Tutoring Institute (see above)
6. Suppliers of texts, tapes, etc.
   a. SuperLearning, Inc., 450 7th Ave, Suite 500, New York NY 10123
   b. Effective Learning Systems, Inc., Robert Griswold, 5221 Edina Ind. Blvd., Edina MN 55435
7. Kindred organizations
   a. Institute of Noetic Sciences, 475 Gate Five Rd., Suite 300, Sausalito CA 94965

This is but a sample which would expand if each would contribute information and a computer expert classified it for printing.

Doubtless, starting with this, others can suggest other categories we could add to those suggested. SALT travelers and enquirers seeking information about the method should find this very useful.

Conclusion

Though I heartily agree that teachers should ideally be thoroughly trained prior to teaching, when starting on a shoestring, you just have to do what you can with what you have got. The longest journey begins with a single step.

If you just start, the method will speak for itself and in time you will find interest in what you are doing, then funds and the needed detailed training. I did.

At this point, I would like to thank those people as yet unmentioned who helped me: Charles Schmid, who trained me, Elizabeth Adam, who was my aide in the early days of my efforts along the SALT trail, and the Windsor School Board, who backed my backer, Norm Ginsberg.

I would like to reiterate that we are the SALT of the educational earth, and it behooves us to spread our savor worldwide, for in so doing, we may contribute to international understanding, and to peace among nations.

* * *

Introduction des mathématiques accélérées élémentaires de budget bas.

L'auteur décrit comment il a commencé à utiliser les méthodes d'apprentissage accéléré en enseignant l'orthographe et l'arithmétique dans des écoles publiques californiennes. Un grand nombre de suggestions est donné aux enseignants voulant commencer à enseigner avec cette

méthode avec un budget tres limité ou sans. Beaucoup de suggestions générales et utilies sont aussi faites pour diffuser SALT.

Eine im Etat Neidrig vorgesehene Einführung in beschleunigten Mathematikunterricht für Anfänger.

Der Autor beschreibt, wie er seinen Anfang mit dem Gebrauch von beschleunigenden Lernmethoden im Rechtschreibungs- und Mathematikunterricht in den öffentlichen Schulen von Kalifornien gemacht hat. Eine Reihe von Vorschlägen für Lehrer, die ohne oder mit sehr wenig Etat mit dieser Methode ihren Unterricht beginnen wollen, werden angeboten. Auch werden viele allgemeine Vorschläge fur das Verbreiten von SALT gemacht.

Introducción acelerada de matemáticas elementales con un presupuesto limitado.

El autor describe como usó el método de enseñanza acelerada para enseñar grámatica y matemáticas en una escuela pública de California. También hay una serie de sugerencias para maestros que quieren usar este método a pesar de que cuenten con un "presupuesto raquítico." Se incluyen varias sugerencias útiles de como popularisar SALT.

J. of the Society for Accelerative Learning and Teaching, 1984, 9(3)

Application of the Lozanov Learning Method Within the Public/Private School Sector*

Carl Schleicher

Abstract. The author describes various research projects around the US in which suggestopedia is used to improve the quality and speed of education. He also voices concern for suggetopedic teacher training, maintaining teaching quality and teacher certification.

It is a pleasure again to have the opportunity to make this presentation to SALT participants at the Ninth International SALT Conference. Last year in my presentation, I gave an update on various scientific research and new projects using the suggestopedic method, and I believe this paper will be published in a forthcoming issue of the SALT Journal, so I won't repeat again these topics.

On this occasion, I hope to focus on those applications and issues of the suggestopedic method within the private and public school sectors. This is an area of prime interest which has even become one of the key political issues in the 1984 Presidential campaign. As a result, this area of education is getting much attention in the media. For example, Mary Futrell (1984), president of the National Education Association, recently reported, "Tragically, a full year after the release of the 'A Nation at Risk' report, the federal government is on a disastrous course of actually defending education." Further, she states, "The NEA is striving to broaden math, science and foreign language curricula within the severe limitations of atrophied school budgets."

It is worthy of note that a former associate, Ms. Gladys Gay Barker (1984), who is currently the public relations director of the NEA, wrote a column for the NEA Journal in 1974 (over ten years ago) that recommended use of the Lozanov method to improve and accelerate the learning of these subjects in the public school system.

With respect to the report cited above, "Nation at Risk" (1983), this has actually had more impact on the US education system than perhaps given credit for by Mary Futrell. The purpose of this report, prepared by the blue-ribbon

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*Paper presented at the 1984 SALT Conference

National Commission on Excellence in Education, was to help define the problems afflicting American education and to provide solutions, not search for scapegoats. We at the Lozanov Learning Systems, Inc., recommend this report to SALT participants since, as the foreword in the report states, it constitutes a major resource for all persons interested in American education.

One of the recommendations of this report was that since it requires four to six years of study to achieve proficiency in a foreign language, such study should be started in the elementary grades. We feel a better solution would be to use the Lozanov method for the learning of foreign languages at any grade level from 2 to 12, and proficiency could be achieved within four to six months rather than four to six years.

Another recommendation stated that various groups such as the Modern Language Association and the National Council of Teachers of English make available and devise new and more diverse curricular material. It may be that the SALT organization could also serve to provide input in this area, and it is recognized that one of the key reasons most of us here is to find a better way to teach various materials. Many articles have appeared in the press recently that have taken the classroom teachers to task, and based on recent headlines in various Washington Post newspaper articles on April 22, 1984, it appears to be open season on school teachers, such as: "Poor Teaching is Dangerous to Kids' Lives," or "Some Teachers are Just Plain Destructive--It's hard to fire the bad ones, and too little is done to lure the good." Our response to this is to improve the teacher training programs and set standards in this area. One positive step in this direction, at least for teaching of various accelerated learning methods, came out of last year's SALT Conference. Charles Gritton, last year's Conference chairman, set up a committee for certifying such teachers, and this procedure has now been spelled out in a memo prepared by Miles Jones, Associate Director of the LLI Center in Dallas, Texas. Either he or I will be pleased to share this memo with any of the participants here.

Teacher training and certification is the most important part of any accelerated learning program, and the success or failure of students in such programs is highly dependent upon the quality of the teacher. But once a teacher is trained and certified, the suggestopedic teacher must be continually evaluated and monitored for his/her own good and professional development. At LLSI, we find it best to have an experienced teacher present in the class when a new teacher embarks on their first suggestopedic course. This benefits also the students who are reassured that the experienced teacher is present as an authoritative back-up and yet does not undermine the authority of the new teacher. One good way to monitor teachers, which appears on the surface to be out of Orwell's 1984, is to keep a TV camera focused on the teacher at all times so the teacher's performance can be evaluted from a control room or reviewed later from the videotape by the training director. Dr. Lozanov uses both of these methods for evaluting instructors at his institute in Sofia, Bulgaria. I have personally observed this, and he has remarked that this monitoring system has enabled him to maintain the high quality of his teaching staff.

Another key factor in improving the quality and standardization of teachers is to make available to each teacher a Teacher's Manual. Such a manual should contain a discussion on methodology of the system, use of specific aids and music tapes, instructions on the concert sessions, list of games for use in the classroom and other sundry information on the practical classroom application of this method of instruction.

Our own Instruction Manual will soon be updated by new material we have received from Dr. Lozanov, and this material will also be included in the teacher training and certification program conducted by LLSI in various parts of North America and overseas areas.

One person who has completed two LLSI Instructor Training courses under two different LLSI instructors is Ron Ennis of Portland, Oregon. Ron is also a SALT participant and has recently compiled a list of major accelerated learning projects, some of which were in the private and public school sectors. Since it appears Ron's report will be made available via SALT, I will not comment further on it. More of these types of reports need to be done, and it is hoped this presentation can give some insight into such activities.

During the past several year, LLSI has trained many teachers from public and private school systems. A number of these teachers have gone back to their schools and implemented the Lozanov method in their classrooms or school systems. One such person was Ron Smallwood from the Bristol school system of Bristol, Virginia. We are pleased to report that currently this method is being implemented in the Bristol public school system, and in fact, this project even made headlines in the local newspaper, the Bristol Herald Courier. This program has been implemented in Bristol since September 1983, and it is expected the results will be available in June of 1984. Either Ron Smallwood or this presenter will prepare a special report to be included in this paper if published in the SALT Journal or prepared as a separate report.

Since November 1982, and through most of 1983, the techniques of the Lozanov method have been implemented in District 16 of the Chicago school system, which comprises twenty elementary and four high schools. Teachers from these schools were trained in a special teacher training seminar conducted by Peter Kline, who is LLSI's training director. Due to a work stoppage in the Chicago public school system in 1983, the test results for this program are not yet available, but will also be included in this paper prior to publishing in the SALT Journal. However, the following comments were made about this program by Dr. Jacqueline Simmons, director of the Chicago school project:

1. The method affected the lives and attitudes of the teachers in a positive manner and helped to increase motivation.
2. Creative writing skills of students markedly increased.
3. Reading skills of students increased markedly over results of prior years.
4. Football and basketball coaches reported "phenomenal results" by virtue of the fact that two teams from District 16 that used the suggestopedic approach in their training sessions, reached the semi-finals in the state and were ranked nationally. In the past ten years, these teams had not won any title or even had winning records for most of that time.
5. Remedial application for algebra. The suggestopedic approach was applied to a class of slow learners who were helped and who are even making up their own "learning" tapes which were inspired by this method. This school district is continuing with this program and expects to eventually train all teachers in all schools of District 16.

In the coming year, LLSI expects to work with school systems in areas which have been seriously impacted by the heavy influx of refugees and other overseas persons. Such areas include New York, Miami, Detroit and Los Angeles. As these programs get underway and become documented, we will try to include any highlights of the results in this paper before it is published in the Journal or even included in a forthcoming SALT Newsletter.

With respect to use of the Lozanov method in private schools, perhaps the hallmark program was that conducted at the Interlocking Curriculum program of the Sandy Spring Friends School. This school, now renamed the Thornton Friends School, is located in Sandy Spring, Maryland, and is directed by Peter and Nancy Kline, who are both well known to SALT members. In a study conducted at this school involving 36 students equally divided among French, German and Spanish classes, the following conclusions were drawn. These results were determined by an anonymous questionnaire conducted by the students in this demonstration project, as well as by oral interviews:

1. The practical mechanics of Lozanov learning can be implemented in the classroom; that is, classes have now been taught in the US in the Lozanov way.
2. There are students who make spectacular learning gains using Lozanov methods.
3. Only highly motivated students can profit from Lozanov learning methods.
4. Students should have thorough briefing before beginning instruction employing the Lozanov methods.
5. Teachers should be thoroughly trained and experienced in Lozanov methods if the full potential of the methods is to be realized.
6. Provision should be made for evaluation of student progress.
7. Lozanov methods are extremely promising as useful educational tools in the US. It is recommended that appropriate research be done which would permit definitive assessment of the potential benefits of Lozanov learning methods.

Based on the above, it can be seen that this program does hold much hope and promise, but only if the high quality of the teachers is maintained, and if further research is carried out. LLSI is attempting to do both by obtaining research grants, conducting its own assessments and in-house evaluations of students, working with many researchers around the world and helping publish new materials and reports in this area. We need more help to do all that is required, and we issue a call to all SALT participants to join with us to research and apply the potential benefits of this program on a broad scale in North America and overseas areas as well. In this manner, we can help overcome some of the problems cited in the report, "A Nation at Risk."

We foresee within the next five years application of this program in areas, for example, to learning of Zulu in South Africa; to merging with Apple computers as a humanizing factor as at Penn State University, where such a project is currently underway; to upgrading teacher training at all levels of the public and private school systems. We welcome your participation, and it is hoped LLSI, our staff and centers can be of service to you in your own areas of interest, and it shall be our pleasure to do so.

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Application de la méthode d'apprentissage Lozanov à l'intérieur du secteur scolaire publique et privé.

L'auteur décrit les divers projets de recherche l'autour des USA à l'intérieur desquels la suggestopédie est utilisée pour amélierer la qualité et la vitesse de l'éducation. Il exprime aussi son intérêt pour la formation suggestopédique de l'enseignant en maintenant la qualité de l'enseignement et le diplôme de l'enseignant.

Die Anwendung der Lozanov-Lernmethode in den öffentlichen/privaten Schulen.

Der Autor beschreibt verschiedene Forschungsunternehmungen in den USA, in denen Suggestopädie verwendet wird, um die Qualität und Lerntempo in der Erziehung zu verbessern. Er bringt auch seine Sorgen um suggestopädische Lehrerausbildung, um Erhaltung von Lehrerqualität und Lehrerqualifikation zum Ausdruck.

Aplicación del método de aprendizaje Lozanov en escuelas del sector público/privado.

El autor describe varios proyectos de investigación hechos en los Estados Unidos en los que se usó "sugestopedia" (suggestopedia) para mejorar la calidad de la educación y acelerar la misma.

El autor también hace notar la importancia de que los maestros reciban un entrenamiento apropiado en "sugestopedia," la importancia de que se mantenga una alta calidad de enseñanza y que se otorgue la certificación apropiada.

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The Ericksonian Approach to Suggestive Linkage*

Charles E. Gritton

Abstract. Contemporaries of Lozanov, Milton H. Erickson and Virginia Satir, have independently developed psychotherapeutic principles that apply to education. The author reviews and compares their works along the lines of suggestopedic principles and means.

Introduction

My purpose here is to review and compare the work and philosophy of suggestive linkage in education for three contributors: Lozanov, Erickson and Satir. I plan to dissect their work for the sake of comparison. But that dissection will not be their total theory. If you remember from Biology, to dissect a frog is not good for the frog. Did you ever try to put a dissected frog back together? Our intellectualizing about the work of others must allow us to reassemble the theory to make it live again. These theories are lifelong pursuits of these individuals and it is an injustice to try to compare them in the space of this article. But we can use comparison as a starting point for educators to strive for excellence.

Whose Work?

Dr. George Lozanov, M.D.; Dr. Milton H. Erickson, M.D.; and Dr. Virginia Satir, Ph.D.

Dr. George Lozanov, M.D. was trained as a psychotherapist, but became interested in "hypermnesia" or super memory, which led to the development of Suggestology and the Outlines of Suggestopedia.

Dr. Milton H. Erickson, M.D. was trained as a psychiatrist and is called the father of hypnotherapy in America. Now deceased, he is still an important source because of his many years as an author.

Dr. Virginia Satir, Ph.D. ,trained in family therapy, has been called "larger than life." Her book, Conjoint Therapy, published in 1967, has been used as a text to train others ever since. Peoplemaking is a newer book for all of those in the business of communicating with or producing people.

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*Presented at the SALT Conference in Houston, Texas, May, 1984, and at the European SALT Conference in Stockholm, Sweden, May, 1984.

Two personal observations: 1) None of these individuals was trained in a College of Education. They show very little regard for the traditions of education; they are excellent communicators of a different sort and have a great deal to offer us as educators, and 2) The ideas contained in this paper have been filtered from the writings of others. If there are any errors in my interpretation, I am to blame.

Are these educators, the lady and the two gentlemen, talking of the same thing? Let's take a look at the tables. They should be kept together and viewed collectively.

Table 1

Comparison of Suggestopedia, and Indirect Suggestion by Joy, Unity and Suggestive Linkage

Suggestopedia		Indirect Suggestion
I. Joy, Absence of Tension	A. Authority	1. Prestige
	B. Infantilization	2. Pantomime
		3. Jokes, Puns
		4. Allusions
		5. Confusion
		6. Non sequiturs
		7. Paradox
		8. Folk language
II. Unity of Cons. Unconscious	C. Double Plane	9. Metaphors
		10. Double Binds
		11. Implication
III. Suggestive	D. Rhythm	12. Rhythm
	E. Intonation	13. Voice dynamics
	F. Passive concert	14. Implied directive
		15. Pause with expectation
		16. Distraction
		17. Dissociation

Note: Dr. George Lozanov does not rank the importance of joy, unity or suggestive linkage in any written material. No item is more important than any of the others. These tables do not make such an order of importance but are for convenience of our comparisons. These groupings are not mutually exclusive but overlap repeatedly into various other groups.

Table 2

Comparison of Suggestopedia, Conjoint Therapy and Indirect Suggestion by Lozanov's six means

Suggestopedia	Conjoint Therapy	Indirect Suggestion
Authority	Power's adjective: Vigorous, Forceful, Strong, Influential, Energetic; NOT: Controlling, nor Regulating, nor Restraining, nor Curbing	Prestige Truism (Important)! Pause with expectation, Acceptance Set, Bind & Double Binds
Infantilize	Games, Dialogues, Different names, Physical stance, Masks, (Role Playing), Shields hide feeling, Patience & Responses to new knowledge with joy & approval!	Analogy, Puns, Allusions, Metaphors, Jokes, Confusion, Depotentiating the learned limitations, Pantomime, Non sequiturs
Double Plane	No learning is single level!	Two-level comm., Multiple levels of communication, Interspersal technique, Implied Directive, Dissociation, Distraction
Rhythm		Rhythm
Intonation	Communication factors Directly, Clearly Specifically, Congruent Leveling, Rules are: Overt, up-to-date, for humans, Freedom to comment, Related to reality, Appropriate, Constructive	Vocal intonation, Voice dynamics, Voice locus, Folk language
Passive Concert	Relax-eyes closed, Aware of your: breathing, thoughts, feelings & feelings about others, Physically move at end	Not doing, Not Knowing (Important), Parasympathetic activation of unconscious

Suggestive Linkage

To understand Lozanov's theory of communication, there are three main sections: joy and absence of tension, unity of the conscious and unconscious mind and suggestive linkage to the reserves of human personality. The first two are accepted by most educators during training. Suggestive linkage is the hardest to explain or to train someone to use every day. That is our goal, to work for an understanding and use of the methods as described in American references. This study leads tò the other theories that parallel Lozanov's. The other two main factors are not less important, but most experienced teachers don't ask that much about them in the beginning.

Examples of Indirect Suggestion

Here are just a few examples from Dr. Milton H. Erickson:

1. Prestige - Would you learn more from George Lozanov or me? Would you rather get an art lesson from me or Rembrandt?
2. Pantomime - You can put on emotions and feelings like a mask; just act mad for a few minutes and you won't have to pantomime anymore. Act it out, ham it up.
3. Jokes, puns - "If you read a lot of books, you're considered well-read. But if you watch a lot of TV, you're not considered well-viewed." (Lily Tomlin)
4. Allusions - an indirect but pointed or meaningful reference.
5. Confusion - to perplex or bewilder, befuddle.
6. Non sequiturs - an inference or conclusion that does not follow established premises.
7. Paradox - two medico's playing golf?
8. Folk language - Does "Ya'all come back, ya heah!" ring a bell in your neighborhood?
9. Metaphors - more examples later.
10. Binds - "Do you want to do the chores before or after supper?"
11. Implication - an indirect indication, an inference.
12. Rhythm - nursery rhymes, "Twinkle, twinkle, little star, --- - ------ ---- --- ---," etc. Part of the beauty of poetry is, it rhymes. "Roses are red, Violets are blue, My poems smell, Just like a ----."
13. Voice dynamics - How many ways can you say, "Yes, please!" Try a few. Just change your physical posture a few times and see how it comes out.
14. Implied directive - (more examples later)
15. Pause with expectation - "Will you...learn without effort in this class?"
16. Distraction - anything that compels attention or distracts.
17. Dissociation - separation of ideas.

Longer Examples

Now, here are a few longer examples from the major areas in Table 2 to help build psychological relaxation in the students:

Truism (Most Important)

The simplest form of suggestion is a truism--a simple statement of fact about behavior that the patient or person has experienced so often that it cannot be denied:

1. "You already know how to experience pleasant sensations like the warmth of the sun on your skin."
2. "Everyone has had the experience of nodding their head "yes" or shaking it for "no" even without quite realizing it."
3. "We know when you are asleep, your unconscious can dream."
4. "You can easily forget that dream when you awaken."

Erikson would rarely make a direct suggestion for a definite behavioral response without tempering it with a variable time that the person's own system can define.

"Your headache will disappear as soon as your system is ready for it to leave."

Others have a different way of stating the importance of truism.

A Penny Saved is a Penny Unspent

Dave Elder (1983) writes in the Washington Evening Journal about "minims." Those are sort of like maxims, only with a twist.

Everyone knows what a maxim is, Dave writes. It's a pithy sentence that states an obvious truth. It's supposed to provide guidance. "Look before you leap," is a maxim as is its opposite: "He who hesitates is lost."

And a minim? It's a sentence that expresses a truth so obvious as to be completely senseless. Some examples of minims are:

Two heads are more numerous than one.
If it's Monday, it's the first day of the rest of your week.
Time heals all nonfatal wounds.
The bigger they are, the harder they hit.
You can fool all of the people some of the time and some of the people all of the time, and that's sufficient for most purposes.

Those were examples in a book by Tom Weller.

Dave has a couple of his own. My favorite is: "A bird in the hand is probably dead."

Passive Concert: Not doing, not knowing, (second most important) parasympathetic activation of unconscious.

When one is relaxed, the parasympathetic nervous system is predominant, and one is physiologically predisposed not to do rather than to make any active effort of doing. Because of this, it is very easy to accept the following suggestions:

"You don't have to talk or move or make any sort of effort. You don't have to hold your eyes open."

"You don't have to bother trying to listen to me because your unconscious can do that and respond all by itself."

"People can sleep and not know they are asleep."

"They can dream and not remember that dream."

A basic aspect of learning is allowing mental procedures to take place by themselves. We ask the students to "relax and let things happen." Not doing is thus a basic form of indirect suggestion that is of particular value in passive concerts. Most people do not know that most mental procedures are autonomous. They believe they think by driving and directing their own associative processes. And to a certain degree, they do. But it comes as a pleasant surprise when they relax and find that associations, sensations, perceptions, movement and mental mechanisms can proceed quite on their own. This autonomous flow of undirected experience is a simple way of defining learning. Suggestion comes into play when the teacher's directives have a significant influence in facilitating the expression of that autonomous flow in one direction or another.

Closely related to not doing is not knowing. In everyday life, we must continuously be expending energy and effort to know. How pleasant, then, to find a situation where we can relax and do not need to know. What a relief! Lost students can look forward to a class experience as a new-found freedom from the demands of the world. They really don't have to know or do anything; their unconscious can handle it all by itself.

Metaphors: The Cognitive Framework

Looking at the themes related to therapeutic outcomes, we can translate them into metaphors by answering the question, "What is this parallel or similar to?" Once translated, we can embellish them with elements of dreams and various interventions in the context of multiple embedded metaphors.

1. New distance between family members: An office might put up partitions between workers because the company gets larger.

2. Self-image changes: A bottle of wine improves with age when left alone.

3. Changing roles and expressing new emotions: A young adult moving from one country to another has to learn to drive on a different side of the road and follow different customs; he needs to be assertive but not offensive.

4. Family structure changes as children begin to have their own families: An architect eventually learns that his buildings are his own only as he designed them, but when they are completed, people move in, and the buildings are used in ways far differently from what he had planned.

5. Retirement: Rosebuds grow to full bloom and death (Lankton & Lankton, 1983).

Let's make some metaphors for learning various items: reading, math, spelling, whatever you need.

Implied Directives

Implied directives include all sentence forms containing auxiliary words such as "can," "will," "might," "should," "must," etc. In contrast, three examples of directives:

1. "Sit there quietly and close your eyes."
2. "Concentrate on your relaxation and listen to my voice."
3. "Don't move."

But using implied directive language, the previous directives become:

1. "Can you sit there quietly and close your eyes?"
2. "Will you concentrate upon relaxation or will you listen to my voice?"
3. "You may find that if you need to move, you will do so very slowly."

In these examples, a certain permission seems to be offered by the teacher and, as with any permission, a command is being given at the psychological level in a conversational and non-challenging manner.

Implied directives use words about consciousness such as "wonder," "surprise," "curious," "know," "doubt," and "hope." These will affect clients in still another noticeable manner.

This type of natural suggestive language consists of complex nouns such as "hopes," "dreams," "resources," "talents," "sensations," "thoughts," "unconscious," "beliefs," "memories," and "learnings," and abstract or vague words such as "brilliant," "courageous," "adventuresome," "loving," "genuine," "stubborn," "head-strong," and "individualistic." These words, in everyday use, pack more meaning per syllable than any speaker could really hope to convey to the listener (Lankton & Lankton, 1983).

Voice Tone Shifting

This is a direct statement from Erickson about his use of systematic nonverbal, as well as systematic verbal communication. "Yes, the phrase to the unconscious is spoken softly. I use one tone of voice to speak to the conscious mind and another to speak to the unconscious." (Erickson & Rossi, CPI, p. 438).

Table 3 summarizes these microdynamics of suggestion according to Erickson (1980).

Conclusions

Humans have been communicating for a long time. But we can all improve, using Lozanov's model. The structure lends itself to improving the interaction between people. If these different individuals from various parts of the world have models so much alike, they must be good. There is still room for improvement, and until we are as good as these models, let's strive to reach their footsteps.

Table 3

The microdynamics of trance induction and suggestion

Fixation of attention	Depotentiating Conscious Sets	Unconscious Search	Unconscious Processes	Hypnotic Response
1. Stories that motivate interest fascination 2. Standard eye fixation 3. Pantomime approaches 4. Imagination and visualization approaches 5. Hand levitation 6. Relaxation and all forms of inner sensory, perceptual, or emotional experience	1. Shock, surprise, the unrealistic and unusual 2. Shifting frames of reference displacing doubt resistance and failure 3. Distraction 4. Dissociation and disequilibrium 5. Cognitive overload 6. Confusion, non sequiturs 7. Paradox 8. Conditioning via voice dynamics, 9. Structure amnesias	1. Allusions, puns, jokes 2. Metaphor, folk language 3. Implication 4. Implied directive 5. Double binds 6. Words initiating exploratory sets 7. Questions and tasks requiring conscious search 8. Pause with therapist attitude of expectancy 9. Open-ended suggestion 10. Covering all possibilities of response 11. Compound statements	1. Summation of a. Interspersed suggestions b. literal associations c. Individual association d. Multiple meaning of words 2. Autonomous, sensory, and perceptual processes 3. Freudian primary processes 4. Personality mechanisms of defense 5. Ziegarnik effect	"New" datum or behavior response experienced as hypnotic or happening all by itself

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Approche Ericksonienne à l'engrenage suggestif.

Milton H. Erickson et Virginia Satir, contemporains de Lozanov, ont indépendamment dévelopé des principes psychothérapeutiques qui s'appliquent à l'éducation. L'auteur corrige et compare leurs travaux en suivant les principes suggestopédiques et leurs ressources.

Die ericksonische Methode für suggestive Verbindung.

Milton H. Erickson und Virginia Satir, Zeitgenossen von Lozanov, haben unabhängig voneinander psychotherapeutische Prinzipien entwickelt, die in der Erziehung anwendbar sind. Der Autor gibt einen Oberblick über ihre Werke und vergleicht sie in Beziehung auf suggestopädische Prinzipien und Mittel.

Método Ericksoniano de unión sugerida (suggestive linkage)

En forma independiente, los contemporaneos de Lozanov: Milton H. Erickson y Virginia Satir, han aplicado principios terapeúticos a la educación. El autor revisa y compara los trabajos mencionados a la luz de los métodos y principios sugestopédicos.

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A Controlled, Comparative and Evaluative Study of a Suggestopedic German Course for First Year University Students

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Abstract. The progress of three groups of university students enrolled in a first-year German course was evaluated after one completed academic year. The achievements of two control groups, a day and an evening class taught by conventional methods, were compared with those of our experimental group taught using suggestopedic methods in order that substantial comparisons could be made. Additionally, for the experimental group in Term III, a variety of music examples representing different styles and genres was introduced to determine the acceptance and effect of works other than those of the Baroque era not yet evaluated in available research. A spatial re-arrangement of the classroom accompanied this change.

Proficiency in the German language was measured by a number of tests: mid-year written, end-of-year written and oral; and an objective test. The experimental (suggestopedic) group was tested more frequently according to suggestopedic principles. Further responses from all groups were sought by means of a general questionnaire, and the experimental group completed a music questionnaire. An analysis of the considerable amount of data collected from the substance of this report was made, which confirms the superiority of suggestopedic methods over conventional teaching and learning.

From March 1983 to November 1983, a controlled experiment evaluating the effectiveness of suggestopedic teaching of first year German was conducted in the Department of German at the University of Adelaide involving two control groups (CG-Day and CG-Evening) and one experimental (EG) suggestopedic group.

The control group (day) met from 9:10-10:00 a.m. on Monday, Wednesday and Friday, and from 10:10-11:00 a.m. on Tuesday and Thursday. The control group (evening) and the experimental group met from 5:15-6:55 p.m. on Monday and Wednesday, and from 5:15-6:05 p.m. on Friday.

The academic year consisted of 9 weeks of teaching in Term I, followed by four weeks' vacation, 9 weeks of teaching in Term II, followed by 4 weeks' vacation and 8 weeks in Term III. The students were given ten days' vacation before they had to present themselves for an oral exam in German language and German literature; the latter exam was conducted in English. The written examinations for EG were given under suggestopedic conditions, i.e., relaxation preceding the exams and with Baroque music during the exams.

The Chairman of the German Department literally drew the names of those students who were to be in the EG out of a box. A questionnaire revealed that none of the randomly selected students knew anything about suggestopedic teaching and learning. These students received an introductory lecture on suggestopedic teaching and learning in their first class meeting. At that time, they were told that they could switch to one of the CG, if they so desired. None chose to leave.

Venues

The two CG met in an ordinary classroom, the EG met in a staff room, where relaxed seating could be arranged and an informal atmosphere achieved as recommended in the "suggestopedic setting."

In Term III, more careful consideration was given for the Experimental Group to the physical disposition of teacher, class and music source within the classroom, with a view to optimizing the processing of words and music. This decision was made in view of the fact that there have been several reports over a number of years that, broadly, music is processed by the right cerebral hemisphere (Kimura, 1964; Gordon, 1970) and speech by the left. Accordingly, the class was placed in the middle of the room with the lecturer on the class' right and the tape recorder on the left. Under these conditions, both cerebral hemispheres were intended to be stimulated; the tonal and melodic aspects of the music entered the left ear (for processing by the right hemisphere) while simultaneously, the lecturer's didactic material entered the class' right ear (for processing by the left or "speech" hemisphere.

Teaching Program

All three groups used the same textbook: *Grundkurs Deutsch* throughout the entire year, additionally, *Weg zum Lesen* in Term II, and *Feuerrote Friederike* by Christine Nöstlinger and the play *Der Besuch der alten Dame* by Friedrich Dürrenmatt in Term III. In each group, *Grundkurs Deutsch* was taught by the same class teacher. In Term II, CG-D was divided into three tutorial groups once a week for *Weg zum Lesen*. That tutorial was not taught by the class teacher, and it was conducted as a language tutorial. In Term III, one lesson a week (each Friday for *all* groups) was given in English on the two literary texts.

Summary of the Teaching Plan for Both CG:

Term I:
Grundkurs Deutsch (class teacher) - 5 lessons weekly
Term II:
Grundkurs Deutsch (class teacher) - 4 lessons weekly; *Weg zum Lesen tutorial once a week*.
Term III: *Grundkurs Deutsch* (class teacher) - 3 lessons weekly; literature lecture (in English) once a week for CG-D, once fortnightly a double lecture for CG-E and EG.

Summary of Teaching Hours Per Term

Considering vacations and holidays during term time, the students had the following total hours of instruction in German language and literature:

	CG-D	CG-E	EG
Term I:	42	40	40
	(Good Friday, Easter Monday, ANZAC Day Monday, April 25 are holidays)		
Term II:	44	43	43
	(Queen's Birthday on a Monday)		
Term III:	40	40	40
Total:	126	123	123

The EG did not quite follow this pattern. There only the literature lecture was given by someone other than the class teacher. *Weg zum Lesen* tutorial (Term II) and literature tutorial (Term III) were integrated freely into the overall term work. This group finished *Grundkurs Deutsch* before the middle of Term III and therefore devoted the rest of the term to reading and discussion of the two literary texts. Throughout the year, this group dealt with five additional chapters, which the class teacher had prepared for the students, totalling approx. 15 class hours, and the students learned nine songs. In addition, approximately half of *Friederike* and all of *Der Besuch der alten Dame* was read in class.

An unannounced written test was given to all three groups separately and concurrently in mid year (July), and evaluated by the EG class teacher. In the last class session at the end of the year, a previously announced test with specification of test requirements was administered separately and concurrently to all three groups and evaluated by the EG and the CG-E class teacher. Immediately after that test, another unannounced objective language achievement test was given to all students and evaluated by the EG class teacher.

In each term, the CG class teachers gave the students two announced written tests. The EG was tested more often than that in keeping with suggestopedic principles. Unlike the tests in the CG, most of these tests were "sprung" on the EG without prior announcement so that the students could not and would not prepare themselves for these tests. All tests except the objective language achievement test at the end of the year where actual language acquisition was measured, covered only material taught in the course based on Grundkurs Deutsch, except two tests in Term II in the EG, where material from Weg zum Lesen was included as well.

The oral performance in language and literature of all students was evaluated by three teachers: the EG class teacher (all students) and both CG class teachers (most students). On the second day of this evaluation, one CG class teacher had to be replaced due to illness by another teacher who had given literature lectures (Term III) and language tutorials (Term II) in that class. Differences of opinion in the scoring of student performance (which happened rarely) were evened out by averaging the score.

Student Enrollment

GERMAN IA: 46 students enrolled and started the course

Term I

CG-D: 22 students had enrolled and actually started the course.
21 students of the 22 finished Term I.
1 student joined the day group half way through first term from the EG (timetable problems).
CG-D lost effectively one student for no known reason.

CG-E: 12 students had enrolled and actually started the course. Ten of the twelve finished Term I.
Two left the course for no known reason.

EG: 12 students had enrolled and actually started the course.
1 student moved into CG-D halfway through the course (timetable problems).

1 student moved interstate and left the university.

Term II

CG-D: Approximately 18 students started Term II. Twelve students finished the term.
One student moved into CG-E halfway through the term because of timetable conflicts.
A questionnaire filled in anonymously by 16 students still attending by midterm revealed that the IA course made too great a demand on most of the students, a complaint which is not new. It appears every year, if not formally then informally, in discussions and it is assumed that most students who dropped out during Term II did so for this reason.

CG-E: Of the 10 students who finished Term I, 9 students continued. One student dropped out because she accepted employment. Halfway through the term, one student joined this group from CG-D (timetable clashes). Therefore 10 students finished Term II.

EG: All 10 students who had finished Term I continued and finished Term II.

Term III

CG-D: Of the 12 students who finished Term II, 10 students continued in Term III. Ten days before the end of lectures two students dropped the course because they realized that they were failing. They spoke to the course director before withdrawing. Eight students finished the course successfully.

CG-E: Those 10 students who finished Term II continued and finished the course successfully.

EG: Of the 10 students who finished Term II, one student went to Germany taking up a DAAD scholarship (Stipendium des Deutschen Akademischen Austauschdienstes). One student dropped out for personal reasons. The rest, 8 students, finished successfully.

Summary

20 students left the course largely because of its heavy demands.
26 students finished the course.

Problems of Attendance

During Term II, a crisis became apparent in CG-D. Attendance at classes had become very poor. On an average, fewer than half of the enrolled students attended classes regularly. The course director, who was also the class teacher in the EG, wrote a letter to all day students and invited them to a meeting at which the students filled in a questionnaire. The aims were, on the one hand, to find out what was going wrong with the course, and on the other, why students had dropped the course or attended classes irregularly. An analysis of the questionnaire showed two major problems: Two thirds of the students found that too much homework was requested of them in this course and that it proceeded too fast. One third of the students admitted that they did not attend the course regularly. Absences ranged from half to a single lesson. Fifty percent of the students stated illness as reason for absences, 25% stated work commitments, the rest had personal reasons for not attending. Further major complaints included repetitious homework (grammatical drill exercises as prescribed by the textbook *Grundkurs Deutsch*) and generally excessive workload in this course. Since attendance at lessons was not a problem in the CG-E and EG, this questionnaire was not given to those two groups.

Student Background at End of Year

	CG-D (8)	CG-E (10)	EG (8)
Full-time	5	4	2
Part-time	3	6	6
A foreign language other than German studied	*	6	6
Previous German language studies	*	**	***

*data not available; **to varying levels, 1 of them to matriculation level, 1 of them had lived in Germany for two years, 4 without previous German language studies; ***to varying levels, none had matriculated in German, 4 without previous German language studies

Table 1

Average test results of unannounced mid-year exam administered to all students attending class

Group	N	Comp.	Gram.	Eng-Ger Trans.	Ger-Eng Trans.	Total
CG-D	12	62.2%	36.1%	47.7%	76.7%	61.8%
CG-E	10	64.2%	45.6%	55.6%	59.6%	58.3%
EG	9	74.6%	55.5%	55.5%	90.4%	75 %

By the time this test was given (15 July), CG-D had already lost 45% of the students originally enrolled in the course. One student in CG-D and three in CG-E failed that test. The lowest percentage achieved in the EG was 61%, which represents a PASS I or upper pass by Australian standards. The drop-out rate in CG-E and in the EG was low, 23% and 25% respectively (refer to the section on Student Enrollment) and of those who had discontinued the course no student had left for fear of failing or due to heavy demand the course made on them.

Results and Analysis of End-of-Year Written Test

Unlike the midyear test, the students were informed this time well in advance about test material and time of test. All students could therefore prepare themselves for this test. The test consisted of four parts and was marked out of 200 points (=100%).

Table 2

Average test results of end-of-year written test

Group	N	Gram.	Trans.	Ques. & Answers	Creative Writing	Total
CG-D	8	68 %	71.8%	67%	86.6%	69.3%
CG-E	10	66.3%	75.5%	68%	65.1%	69.4%
EG	8	71.4%	78.3%	76%	77.5%	77.1%

Comparisons

The achievements of the EG compared with the Control Groups were as follows:

	CG-D	CG-E
overall average	+7.8%	+ 7.7%
section I	+3.4%	+ 5.1%
section II	+6.5%	+ 2.8%
section III	+9 %	+ 8 %
section IV	-9.1%	+12.4%

Objective Test

Immediately following the above end of term test, the students were given an objective test, previously not announced, to measure their German language acquisition. This test consisted of two parts: a grammar test consisting of 25 points (one point per answer) and a reading comprehension test consisting of 19 points (one point per answer). In CG-E two students declined to undertake the test, therefore, eight students in each group participated.

Table 3

Average test results of objective test* given at end of term

Group	N	Grammar	Comprehension	Total
CG-D	8	58 %	52 %	55%
CG-E	8	45.5%	51.3%	48%
EG	8	53.5%	75.7%	64%

*AATG National German Examination for High School Students, Fourth-Year German, 1979 by Educational Testing Services.

End-of-Year Test Conditions for EG Group:

Test conditions were established along suggestopedic principles. Environmental music, a particular tape selected by majority vote of the class, was played to assist mental relaxation/mind calming prior to the test. This pretest music was overlaid with the class teacher's positive reinforcement of notions that students could expect to do well, would concentrate easily and be quite relaxed during the test. The test itself was also accompanied by music, a series of baroque largos which recalled pleasant learning experience from earlier lessons in the course.

Some Conclusions Drawn from Written Test Results

Considering the high drop-out in CG-D and assuming that only the really good students remained in the course, the achievements of the EG were quite considerable. For many reasons, e.g., the students' background, work commitments, numbers, timetable, etc., it is probably more valuable to compare CG-E with the EG, since those two groups had more in common than the CG-D had with either of them. In that context, it can be said that the EG surpassed the achievements of the CG-E in every respect, particularly in those unannounced written tests (mid-year and objective test at the end of the year).

End-of-Year Oral Examinations

The oral exams in language and literature were conducted approximately ten days after the end of year written test. The students had to choose and study two texts from the second half of *Grundkurs Deutsch* and one story from *Der Weg zum Lesen* for their oral exam in German. The students in the EG resented this decision because they had been trained in conversational German as part of suggestopedic teaching and learning. This was not possible in the Control Groups as there was hardly any time for such "fun" due to the heavy emphasis on grammar and drills. Accordingly, conversational German could not be tested since it would have disadvantaged both Control Groups.

Average examination results within the three groups

Oral performance was assessed considering the following components: 1) comprehension, 2) fluency, 3) grammatical accuracy, 4) vocabulary, and 5) pronunciation. In these categories, the data for the three groups are shown in Table 4.

Table 4

Average oral examination results at end of year

Group	Comp.	Fluency	Gram.	Vocab.	Pron.	Overall
CG-D	6.6	6.3	6.3	6.6	6.8	6.5
CG-E	6.4	5.6	5.5	5.8	6.1	5.8
EG	6.7	7.7	6.2	6.5	6.6	6.7

There appears to be a marked difference only in the category "fluency" where the EG stands out. This, of course, is due to the fact that in suggestopedic foreign language classes "role play," games and the "psycho-drama" at the end of the course motivate the students to speak in the target language. It is interesting to note that in the category "grammatical correctness," the EG does not appear to have achieved lower standards despite the fact that grammar was less emphasized in that course than in the traditionally-taught control groups.

Two students in the CG-E failed the language oral and had to redeem their marks.

As far as the literature oral is concerned, the following results were achieved, marked out of 10:

CG-D: average mark - 8
CG-E: average mark - 6.3
EG: average mark - 7.2

It was quite obvious and verified by the students in conversations that the CG-D had more students who were interested in literature than both evening groups where most students were more interested in speaking the language. Both evening groups had a higher percentage of part-time students; they were on the average older and their motivation for learning German was firstly to speak and understand the language and travel to German-speaking countries. This was less prevalent in the day group; another reason why a comparison between CG-E and EG is more accurate than a comparison between CG-D and EG.

Music used in EG

In Terms I and II, music was used which has been proven in the US and other countries to be effective for suggestopedic teaching and learning. In Term III, various kinds of music not yet evaluated in available research were used experimentally. It has been well documented that baroque largos are highly effective, particularly in the passive phase of instruction, however, reactions to a wider range of musical styles and genres were sought. Hence, music by composers representative of the baroque, classical, romantic and twentieth century styles was offered and evaluated.

Five tapes each were selected and compiled to be used as background to the Active and Passive Concerts of lessons. Tape 1 was played in the first lesson for Term III and the cycle repeated from the sixth lesson. (Full details of the music tapes are included in Appendix Music List.)

The compilation of music pieces was determined by the following plan/summary:

A. **Active Concert**

Tape 1 -
    20th Century music, highly individual style (Hindemith)
Tape 2 -
    20th Century music, individual style, familiar genre (piano concerto) (Prokofiev)
Tape 3 -
    20th Century composer, recognizable style of music (medieval, baroque) (Respighi)
Tape 4 -
    Romantic music, recognizable style and genre (Beethoven)
Tape 5 -
    Romantic music, recognizable style (Berlioz)

The general progression from Tape 1-5 was for the music to be perceived as complex-less complex for the non-music specialist/ listener.

B. **Passive Concert**

Tape 1 -
    Baroque composers (Legrenzi, Corelli)
    pre-classical composer (C.P.E. Bach)
Tape 2 -
    Classical composer (Mozart)

Tape 3 -
Baroque composer (Bach)
Tape 4 -
Romantic composer (Kreutzer)
Baroque composer (Bach)
Tape 5 -
Romantic composer (Beethoven)

Music in Tapes 1-4 contained elements of baroque music, however, the overall progression was Baroque-Romantic.

The choice of music for both Active and Passive Concerts coincided in the 5th lesson with music from the Romantic era (Beethoven, Berlioz).

Music selected for mental relaxation/guided imagery (which was used invariably at the beginning of every lesson, and for the written end of year exam) is given detailed attention in the discussion which follows.

Reactions to the music used throughout the course were tested in two questionnaires distributed to the students in the EG. The first was concerned primarily with music used in Terms I and II, the second (a Music Evaluation Sheet) only with the music used in Term III, though responses overlapped to some extent. Questions dealt with music used for mental relaxation/guided imagery, the active presentation and the passive presentation of course material.

Music for mental relaxation/guided imagery

During Terms I and II, a variety of environmental, instrumental and electronic sounds, essentially non-structured, were used. In Term III two contrasting pieces were chosen: "In Motion" by Gayle Young and "Sanctus" by Ron Nagorcka. Being pieces by contemporary composers, it was expected they would be unknown to members of the EG and responses would not be pre-conditioned on the basis of familiarity. Both suppositions proved to be true. Neither piece was "tonal" in the Western traditional sense and could not, therefore, be described as "melodic," The characteristics of the two pieces may be contrasted as follows:

	Sound Source	Timbre Tone color	Texture	Rhythm Pulse	Predom. Compass
In Motion	Repeated	Pale	Fine	Weak	Treble
Sanctus	Sustained	Dark	Dense	Strong	Bass

Reactions to both music pieces selected for guided imagery/relaxation were tested immediately after each was played for the first time. On both of these occasions, no images were suggested; each individual was free to choose his/her own image (unguided imagery), and class members were invited to respond verbally to the question: "What image did the music conjure up for you?"

Responses were as follows:

A. "Sanctus"
  1. Reunited with a family member in Mt. Gambier
  2. Hell, as in "Paradise Lost"
  3. In the Himalayas
  4. In a dark room
  5. First in Hell, then in Heaven
  6. Nowhere in particular
  7. On Ayers' Rock
  8. In a dentist's chair

B. "In Motion"
  1. In a glass house with many bright flowers
  2. In a forest near Linz in spring; in the snow; watching snow melting
  3. In a forest at night, full moon; a dozen girls dancing in transparent clothes; image dissolving to nothing
  4. Slept deeply
  5. At home sitting near a window; watching and listening to the rain
  6. On a desert island sitting with legs crossed in the sand, and meditating
  7. In Heaven, sitting on a cloud, watching the Earth
  8. In a cave in a valley; watching a wave

As the lesser favored of the two, "Sanctus" was submitted for re-evaluation several weeks later, near the end of the course. A different section of the music (where the "drone" sound of the didjeridoo and any rhythmic pulse were absent) was played instead. In spite of this change, four respondents found the music distracting/disturbing, while three found it calming/soothing. One did not respond.

When comparing the approval rating of both "In Motion" and "Sanctus" with the environmental music used extensively throughout Terms I and II, however, a more definitive response emerged: There were five responses in favor of environmental music, two in favor of electronic music and two in favor of composed music.

The other question: "Do you prefer guided imagery or to conjure up your own images?" also produced a decisive result. Five students preferred to conjure up their own images, one liked either ("It depends on the mood I am in"), one did not respond and only one preferred guided imagery.

In the section dealing with the active concert, six students indicated the music "assisted their listening to the text," one felt the music "interfered with his/her listening to the text," and one felt the music had "no effect."

Respondents were then asked if the music was either "familiar" or "unfamiliar," and to indicate the nearest description of their reaction to it on the following scale: Dislike; boredom; mild interest; appreciation; enthusiasm.

There were two curiosities: the respondent who was "enthusiastic" was also "familiar" with the music, but was also the one for whom the music had "no effect" in relation to listening to the text. The respondent who found the music "interfered with his/her listening to the text" was also "unfamiliar" with the music, but nevertheless "appreciated" it.

Responses to the music for the passive concert were quite decisive: seven students found the music "assisted their memory of the spoken test," none indicated the music "had no effect in assisting their memory of the spoken text," and one did not respond. Six found the music "calmed them down," one did not, and one did not respond.

When asked to clarify whether the music was "familiar" or "unfamiliar," seven students indicated "familiar" presumably (but not necessarily entirely) because they had heard it more than once during Term III.

Students were then asked to indicate the nearest description of their reaction to it on the previous scale (dislike, boredom, mild interest, appreciation, enthusiasm). One was "mildly interested," five were "appreciative" and one was "enthusiastic." One did not respond.

The music specifically chosen as the subject material of the evaluation sheet was Tape 5 and 2 for the active concert and Tape 4 for the passive concert.

Comment was invited about all other music heard during the term, especially unfavorable comment. It was held by about half the class that Tape 1 of the active concert was not as satisfactory as the remainder.

The final questions sought to gain some information about the students' formal musical training, and their musical preferences/ tastes. Five students had not had formal musical training beyond high school; three had. All were asked to list two preferences from a suggested list. The distribution of preferences was:

Symphony Orchestra	6
Opera	3
Rock music	2
Ballet music	2
Concertos	1
Folk music	1
Jazz	1
Total	16

Analysis and conclusions regarding the music with EG

From answers pertaining to music in the General EG questionnaire, it became evident that a slight majority of the EG expressed a preference for environmental sound over music for the mind-calming sessions. As a corollary, most were also in favor of unguided rather than guided imagery.

In Term III, no clear preferences emerged in the choice of music selected for the active concerts, e.g., Beethoven, Berlioz, Respighi, Prokofiev were more or less equally favored. (From informal discussion, Hindemith was received favorably by less than half the class.) Results suggested that music with a Romantic bias was quite acceptable and assisted the absorption of didactic material.

Music from the baroque era was not used exclusively for passive concerts, e.g., there were slow movements from "Romantic" composers Kreutzer and Beethoven, and did not appear to be critical. As mentioned previously, seven out of eight students found the music "assisted their memory of the spoken text."

Although the EG as a whole was biased towards serious Western art music (for example, symphony orchestra, opera, ballet music and concertos accounted for twelve of the sixteen responses), which may have influenced favorably the reactions to the music, there was no convincing correlation between musical preferences/tastes and appreciation of the music selected for the active and passive concerts.

There was no evidence to suggest that students with a musical training were distracted by the active and passive concerts. Similarly, whether the music was familiar or unfamiliar seemed not of critical importance.

Only one of the eight students in the EG would have preferred no music (during talking periods) for the active and passive concerts, however, this particular reference was unclear in the context of the questions asked.

The selection of music for mind calming/relaxation and the active concert seems more in need of careful consideration than that for the passive concert.

Analysis of and conclusions drawn from the general EG questionnaire

At the end of the year a questionnaire was given to all students in the EG and duly answered. An analysis of this questionnaire brought the following results:

1. All students found the physical relaxation exercises to be helpful for relaxation.
2. All students found the mental relaxation exercises to be helpful for relaxation. The majority found environmental music, particularly "Ocean Waves" more relaxing than Steve Halpern's music. Of all the guided images, the majority preferred "walking along the beach." When given the choice (this happened in Terms II and III), the majority preferred to conjure up their own images. Most students found regular and deep breathing relaxing.
3. All music presented in the active concert sessions in Terms I and II was found to be effective. Half the class found Beethoven's "Emperor Concerto" more effective than Tschaikovsky or Mozart.
4. All but one student found the baroque music during the passive concert session relaxing. The majority of the students was of the opinion that baroque music helped them with learning, two did not think so and one was not sure. All but one student ("I find I listen to the music, or I can't concentrate on the words because I am also listening to the music.") wanted baroque music.
5. The majority of the students responded favorably to the use of the ball during elaboration and revision sessions; only one did not like the ball. As far as the puppet was concerned, half the class reacted favorably, the other half had no opinion.
6. When asked general attitude questions, all answers went in favor of suggestopedic teaching and learning. Conversation, games and the psycho-drama at the end of Term II were the most favored aspects of the course. The students expressed their appreciation of the relaxed atmosphere in the class, the group humor, the opportunity for personal participation, the enthusiasm of teacher and fellow students, the social aspects, etc. On the critical side, a few students suggested that more formal grammar should be incorporated into the lessons and fewer tests should be given.

A separate departmental questionnaire with general questions on the IA German course was given to all students (26) who finished the academic year in that class. It was analyzed by a teacher who had had little involvement in the teaching of IA. Seventeen out of twenty-six students answered that questionnaire.

Analysis of German IA class questionnaire

Most students criticized the course textbook. Most students from the control groups found the German IA course more or much more demanding than any other first-year subject, while only one student in the experimental group shared that view. The most striking difference between the CGs and the EG became apparent in the question on hours spent outside of classroom contact hours. It became evident that the CGs on an average spent 10½ hours per week on homework and home studies while the EG averaged only four hours. The CGs were required to work in the language laboratory for a minimum of two hours per week, a requirement no one was able to fulfill due to lack of time. No such requirements were set for the EG since ample opportunity for speaking German was given in class.

Summary of findings

In conclusion, it can confidently be said that the written and oral results of this controlled, comparative and evaluative study, as well as the information gained from the analyses of the music and general questionnaires show clearly that suggestopedic teaching is superior to conventional instruction in terms of German language achievement, student attitudes and time invested to achieve set goals.

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APPENDIX

Music List

Music for Guided Imagery

Tape 1 - Gayle Young: "In Motion" for Columbine
Gayle Young, Columbine
(A metallophone, similar to Glockenspiel, with a large number of divisions of notes of the scale) ABC/FM Broadcast; 28/8/83

Tape 2 - Ron Nagorcka: "Sanctus"
Douglas Lawrence, organ; Ralph Nicholls, didjeridoo; Tim Robinson, electronics; Ernie Althoff, Andrew Bernard, Ann Blore, Mars McMillan, Ron Nagorcka, Susan Nagorcka, Jane O'Brien, Tim Tyler, Andrew Uren, voices. Move MS 3025

Active Concert

Tape 1 - Hindemith: 1) "Symphonic Metamorphoses on themes of Weber" (1st &4th Movements)
2) "Nobilissima Visione" (March)
3) Cello Concerto - fragment
Elder Conservatorium Symphony Orchestra-cond. Patrick Brislan

Tape 2 - Prokofiev: Piano Concerto No. 3 (1st Movt.)
Julius Katchen, piano
Orchestre de la Suisse Romande - cond. Ernest Ansermet
Everest 3297

Tape 3 - Respighi: Suite No. 2 from "Ancient Airs and Dances
Los Angeles Chamber Orchestra - cond. Neville Marriner
HMV OASD 3188

Tape 4 - Beethoven: Piano Concerto No. 5 (1st Movt.)
Elder Conservatorium Symphony Orchestra - cond. Patrick Brislan

Tape 5 - Berlioz: Symphonie Fantastique (1st-2nd Movts)
(1st-Allegro only; 2nd-Waltz)
Sydney Symphony Orchestra - cond. Sir Charles Mackerras
Direct B-cast: ABC/FM: 29/8/83
Overture: "King Lear" (Allegro only)
Royal Philharmonic Orchestra - cond. Sir Thomas Beecham

Passive Concert

Tape 1 - Legrenzi: Balletto ed Corrente No. 9 (1691) in B flat
Corelli: Concerto Grosso No. 5 in B flat, Op 6
C.P.E. Bach: Symphony in D Major
Univ. of Adelaide Italian Baroque Ensemble - cond. David Swale

Tape 2 - Mozart: Concertantes Quartet: ECSO - cond. P. Brislan

J. S. Bach: Sinfonia from "Christmas Oratorio"
Leopold Stokowski and his Orchestra, BGS-70696

Tape 3 - Mozart: Quintet for Piano and Winds, K 452 (2nd Movt.)
University of Adelaide Wind Quintet
J. S. Bach: Sinfonia from the "Christmas Oratorio"
Leopold Stokowski and his Orchestra, BGS-70696

Tape 4 - Kreutzer: Septet (3rd Movt.)
Staff of the Elder Conservatorium of Music
J. S. Bach: "Jesu, Joy of Man's Desiring" from
Cantata 147, "Sheep May Safely Graze"
Leopold Stokowski and his Orchestra

Tape 5 - Beethoven: Symphony No. 9 (3rd Movt.)
Elder Conservatorium Symphony Orchestra
Cond. Ronald Woodcock

Additional Music List (Terms I and II only)

Tschaikovsky: Piano Concerto No. 1 in B flat
Yuri Boukoff (piano)
Vienna Symphony Orchestra cond. by Jean
Fournet, Philips 7317041

Mozart: Piano Concerto No. 27 in B major, K 595
Recording by courtesy of Lozanov Learning Institute
Silver Spring MD

Questionnaire for Suggestopedia Group

A. Physical Relaxation
Did you find the exercises helpful for relaxation?
Yes___ No___

B. Mental Relaxation
1. Did you find the exercises generally helpful for relaxation?
   Yes___ No___
2. Which cassette (music) did you find most relaxing?
   Environment music, e.g., ocean waves, country stream
   Electronic music, e.g., Steve Halpern's music
3. Which guided fantasy did you find most effective?
   a) walking along the beach
   b) walking up a hill watching the sunrise
   c) walking along a stream
   d) sailing along the sky seated in a cloud
   e) finding yourself on an island
   f) other
4. Did you prefer to conjure up your own image to guided fantasy?
   Yes___ No___
5. Did you find deep and regular breathing relaxing?
   Yes___ No___
6. Any other comments on that section of the course?

B. Active Presentation
1. Which concert did you find most effective?
   a) Beethoven's Emperor Concerto (piano)
   b) Tschaikovsky's 1st Piano Concerto
   c) Mozart's Piano Concerto No. 27
2. Would you have preferred no music at all?
   Yes___ No___

C. Revision and Elaboration
1. What is your reaction to the use of the ball?
   favorable unfavorable no opinion
   Comment?
2. What is your reaction to the use of the puppet?
   favorable unfavorable no opinion
   Comment?

D. Passive Presentation
1. Did you find the baroque music relaxing?
   Yes___ No___
2. In your view, did the baroque music help you with learning?
   Yes___ No___
3. Would you have preferred no music at all?
   Yes___ No___
   Comment?

E. General questions
1. Which aspects of the course did you like best?
   Name 4 in order of preference
   Role play
   Reading
   Writing
   Games
   Grammar
   Songs
   Psycho-drama
   Literature
   Conversation
   Vocabulary learning
   Tests

2. Were you ever stressed during class? If yes, say when and why.
3. Were you ever bored in any lesson? If yes, what bored you?
4. Were you ever concerned that you might not succeed in this course? If yes, indicate when.
   Yes___ No___ Occasionally___
5. Have you ever studied a foreign language before?
   Yes___ No___
6. If your answer to question 5 was "yes," which method appeals to you more:
   The suggestopedic method or any other method.
   (If you wish, explain briefly why.)
7. What did you like best about this German course? Comment briefly.
8. In your opinion, how could this course be improved? Comment briefly.
9. Explain briefly which aspect(s) you did not like in this course (if any).
10. Any other comments.

German
MUSIC EVALUATION SHEET

Please check as appropriate

A. Guided Imagery/Relaxation Music
- 1. Did you find the music
  - a. calming/soothing
  - b. distracting/disturbing
  - c. had no effect
- 2. Do you prefer
  - c. guided imagery
  - b. to conjure up your own images?
- 3. Any other comment:

B. Active Concert
- 1. Did this music
  - a. assist your listening to the text?
  - b. interfere with your listening to the text?
  - c. have no effect?
- 2. Was this music
  - a. familiar?
  - b. unfamiliar?
- 3. Please indicate the nearest description of your reaction to this music on the following scale:
  - a. dislike b. boredom c. mild interest
  - d. appreciation e. enthusiam

C. Passive Concert
- 1. Did you find that the music
  - a. assisted your memory of the spoken text?
  - b. had no effect in assisting your memory of the spoken text?
- 2. Did the music calm you down?
  Yes___ No___
- 3. If you were familiar with the music, please indicate the nearest description of your reaction to it on the following scale:
  - a. dislike b. boredom c. mild interest
  - d. appreciation e. enthusiasm
- 4. If you were unfamiliar with the music, please use the same scale:
  - a. dislike b. boredom c. mild interest
  - d. appreciation e. enthusiasm
- 5. Any other comments:

D. Personal Details
- 1. Country of birth
- 2. Predominant cultural background (e.g. Australian, Greek, Dutch, etc.):
- 3. Musical preferences (including contemporary styles, e.g., folk, jazz, rock and traditional styles, e.g., ballet, opera, symphony orchestra, musical comedy, film, etc.) - mention two only:
- 4. Have you studied music beyond high school level?
  Yes___ No___

Thank You for Your Cooperation

* * *

Une étude contrôlée, comparative et évaluative de la classe suggestopédique d'Allemand pour des étudiants en première année universitaire.

Les progrés des trois groupes d'étudiants universitaires inscrits en premiére année d'Allemand ont été évalués aprés une année académique complète. Les accomplissements des deux groupes de contrôle--une classe de jour et du soir enseignée par des méthodes conventionnelles--furent comparés avec ceux de notre groupe expérimental ayant suivi un enseignement par des méthodes suggestopédiques afin que des comparaisons importantes puissent être faites. Je plus, pour le groupe expérimental, dans l'examen III, une variété d'exemples de musique, représentant différents styles et genres, fut introduite pour déterminer l'acceptation et l'effet des travaux autres que ceux de l'époque baroque pas encore évalués en recherche disponible; un réarrangement de la salle de classe accompagna de changement.

La compétence de la langue Allemande fut mesurée par un grand nombres de tests: examen écrit en milieu d'année, examen écrit et oral en fin d'année et un test objectif. Le groupe expérimental (suggestopédique) fut testé plus fréquemment en accord avec les principes suggestopédiques. Un plus grand nombre de réponses, pour tous les groupes, fut recherché à l'aide d'un questionnaire général, et le group expérimental compléta un questionnaire sur la musique. Une analyse du très important nombre des données recuillies à partir du fond de ce rapport fut fait, qui confirme la supériorité de méthodes suggestopédiques contre l'enseignement et l'apprentissage conventionnels.

Eine kontrollierte, vergleichende und bewertende Studie eines suggestopädischen Deutschkursus für Universitätsstudenten im ersten Jahr des Studiums.

Der Fortschritt von drei Gruppen von Universitätsstudenten, die in einem Deutschkursus für Anfänger waren, wurde nach einem vollendeten Schuljahr bewertet. Die Leistungen von zwei Kontrollgruppen--eines Tages--und eine Abendklasse, die mit gebräuchlichen Methoden unterrichtet wurden--wurden mit denen unserer Forschungsgruppe verglichen. Letztere wurde mit suggestopädischen Methoden unterrichtet, so daß wichtige Vergleiche gezogen werden konnten. Zusätzlich wurde eine Vielfalt von Musikbeispielen, die verschiedene Stile und Genren darstellten, eingeführt, um zu beweisen, inwiefern Werke, die nicht aus der Barockzeit stammen, und noch nicht in der vorhandenen Forschung zu finden sind, positiv angenommen und welchen Effekt sie haben würden. Eine neue räumliche Ordnung im Klassenzimmer begleitete diese Änderung.

Fähigkeit in der deutschen Sprache wurde durch eine Reihe von Prüfungen gemessen: Schriftliche Prüfung nach einem halben Jahr, und am Ende des Jahres schriftliche und mündliche Prüfung und ein objektiver Test. Die (suggestopädische) Versuchsgruppe wurde öfter nach suggestopädischen Prinzipien geprüft. Zusätzliche Antworten von allen Gruppen wurden durch einen allgemeinen Fragebogen gesucht, und die Versuchsgruppe füllte einen Musikfragebogen aus. Eine Analyse der beträchtlichen Daten, die vom Inhalt dieses Berichts gesammelt wurden, wurde durchgeführt; die Oberlegenheit suggestopädischer Methoden den üblichen Lehr- und Lernweisen gegenüber ist dadurch bestätigt.

Un estudio controlado, comparativo y evaluativo de la enseñanza sugestopédica de Alemán a estudiantes universitarios de primer año.

Se comparó el progreso de tres grupos de estudiantes universitarios de Alemán de primer año durante todo un año escolar. Se comparó el progreso de dos grupos "control" (uno nocturno y uno diurno) enseñado por métodos convencionales, con un grupo experimental enseñado por el método sugestopédico. Además, para el grupo experimental del tercer término, se introdujo música de género y estilo diferente al barroco, con el fin de ver su aceptación y efecto, ya que este tipo de música no se había evaluado previamente. Adicionalmente, se efectuó un rearreglo en el espacio del salón de clase para poder acomodar este cambio.

Los medios usados para medir el manejo correcto del lenguaje Alemán fueron los siguientes: pruebas semestrales escritas, pruebas finales orales y exámenes objetivos. El grupo experimental (sugestopédico) fué examinado con mayor frecuencia de acuerdo a los principios sugestopédicos. Más datos fueron obtenidos a travez de un questionario general y un questionario sobre música. La superioridad del método sugestopédico sobre el convencional fué confirmado después de analizar los datos reunidos a raiz de los cuales este reporte fué elaborado.

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The Teaching of French in the People's Republic of China

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Abstract. This paper constitutes a translation of a revised version of a presentation Mr. Ma gave at the 1984 Annual SALT Conference in Houston. Mr. Ma attended the conference, not only to talk about foreign language teaching in China, but also to find out more about SALT techniques for possible future incorporation in programs offered at the Beijing Languages Institute. While SALT Conferences have been attended by many foreign visitors over the years, Ma Hongzhi is the first visitor from the People's Republic of China. The paper deals with the general background of foreign language teaching in the People's Republic of China, and specifically with French language studies at the university level, including the nature of textbooks, course structure, teaching methods and teaching research among others.

Historical Background

The teaching of French in China predates the 1949 Liberation. In the latter part of the 19th century, although the Qing Dynasty followed a policy of autarchy, the great Western powers--France, Great Britain and Germany, among others--forced open the door of China. Following the arrival of these great powers, China gradually became a semifeudal and semicolonial country.

China was divided by the Western powers into spheres of influence. In the large cities such as Peking, Shanghai and Canton, these foreign powers installed their consulates and their enclaves. Since they needed Chinese who could speak foreign languages and who could be put into their service, they set up English, French and German schools. Foreign missionaries were also sent to China. As a result, in the late 19th and early 20th centuries, China witnessed a gradual but nonetheless continual development of the teaching of foreign languages, including French. Secondary school graduates were required to speak a foreign language; in universities, subjects were frequently taught in languages other than Chinese as the professors were either foreign-born or native Chinese who had been educated abroad. English was the most frequently taught language at both the secondary school and university levels. However, in northeast China, Japanese was the most widely taught foreign language.

After Liberation, i.e., after the founding of the People's Republic of China, the government attached great importance to the teaching of foreign languages. In the 1950s, Soviet experts introduced the teaching of Russian into China, and Russian gained considerable ground in the secondary schools. Although English and French were still taught at the secondary school level, Russian was favored, as Russian translators and interpreters were urgently needed. The 1950s witnessed the establishment of departments of foreign languages in the universities. French was taught at the University of Peking (Beijing), at Zhongshan University in Canton (Guangzhou) and at the University of Nanking (Nanjing). At the same time, institutes of foreign languages were founded. In the 1950s, however, French was generally not taught in these institutes.

When discussing the development of the teaching of French in China, one must not forget the epoch-making date of 1964. In that year, France officially recognized the People's Republic of China and diplomatic relations between the two countries were re-established. This important event gave a great impetus to the development of the teaching of French in China, and French departments were set up, one after the other, in Chinese universities and foreign language institutes. In 1965, China began to send students to France to perfect their use of French.

In 1956, the Cultural Revolution began, with the consequent reform of the educational system by the ultra-leftists. The teaching of French, like that of many other academic subjects, was suspended for about three years. French was studied, if at all, via French translations of political texts. It was only after the overthrow of the Gang of Four in 1976 that teaching in general, and the teaching of French in particular, returned to normal.

Today in the People's Republic of China, in addition to the universities, there are approximately ten language institutes where French is taught. The Beijing Foreign Languages Institute is the largest of these. In this institute, which offers programs in some twenty foreign languages, the English department is the largest, but the French department occupies second place. Beijing has a number of language institutes; others include the Beijing Languages Institute; the Beijing Second Foreign Languages Institute;

the Beijing Foreign Languages School, which has recently been promoted to the rank of an educational establishment of higher learning. French is also taught in Beijing at the Institute of Foreign Trade, the Institute of Diplomacy and the Institute of International Affairs.

Other Chinese cities also have their language institutes and language departments. In Shanghai are located the Shanghai Foreign Languages Institute and the University of Futan where French is taught in the Department of Foreign Languages. The Shanghai teachers' training college also has a French section. In Nanjing, the University's French department has a relatively long history, and several of its professors are very well known in China. In Guangzhou, French is taught in two schools at the post-secondary level; the Guangzhou Foreign Language Institute is the more important one. In central China, the University of Wuhan has become a center for the teaching of French, thanks, in large measure, to the pilot programs created there by the French government. A foreign languages institute was founded in Xian at the beginning of the 1960s and there are about twenty professors of French at this school. One could also mention other cities in China where French is taught. The above-mentioned institutes and departments are designed to train interpreters, translators and language teachers, as well as diplomatic personnel and/or secretarial staff fluent in one or two foreign languages. French has been taught via radio for the past three years and, as of September 1984, it will be taught via television.

Program of Studies in French at the Post-Secondary Level

Textbooks

French is not widely taught in China's secondary schools. Textbooks for post-secondary school students are designed for two levels. The first level comprises four volumes, each approximately 350 pages in length. The first volume begins with a study of French phonetics, which study consists of about ten lessons. In each of these lessons, there is a short dialogue and phonetic exercises. These ten lessons are designed to permit the students to acquire a good pronunciation and a good intonation and, at the same time, to develop a limited communicative competence in French.

Following the study of phonetics, the elementary lessons proper begin. Each lesson is built around a subject and a situation, based on real life. Very often the text consists of a dialogue containing everyday expressions. The new words and idiomatic expressions are pointed out and explained, to be then used and repeated by the students in class. For each lesson, certain grammatical rules must be taught and these rules are illustrated and reinforced by numerous exercises. Each lesson is studied for about a week, i.e., twelve class hours. In China, classes are held six days a week; French or an equivalent foreign language is studied for two hours a day. The four volumes of the first level are the object of study for two years or four semesters. The content of the lesson-texts of the first two volumes deals principally with everyday life in China, in France and in other French-speaking countries. In the last two volumes, one finds texts chosen or adapted from the works of French writers. In the four volumes, taken in their entirety (1400 pages), a complete study is made of the rules of grammar. Although Chinese students may experience difficulty with verb tenses and prepositions, on the whole they have a good knowledge of French grammar after studying these manuals.

At the second level, there are two volumes, each of which comprises some 200 pages and is the object of study for two semesters. (Chinese students normally attend university or an equivalent post-secondary institution for four years.) The texts of each lesson consist, for the most part, of selections from French literature. Preferred authors include such 19th century realists as Balzac, Stendhal, Maupassant, Zola and Daudet, and such 20th century writers as Sartre and Camus. During each lesson the professor explains the difficult words and expressions, introduces the author of the selection and analyzes the style, content and interest of the text. Each lesson comprises a certain number of semantic and syntactical exercises, as well as topics or themes to be developed and Chinese-French and French-Chinese translations to be done. Very often a lesson will be studied for ten hours, or about two weeks of classes.

Textbooks or manuals for use in the teaching of French (or other foreign languages) are prepared by teams working in Chinese institutes and universities. To date, six French textbooks have been prepared for use at the first level. Four of these manuals have already been discussed and are designed to teach French to future translators, interpreters and teachers. The fifth manual has been prepared by the Institute of Foreign Trade and manifests a content and vocabulary appropriate for commerce students. The sixth manual is designed for scientists. It comprises two volumes whose lessons are characterized by an emphasis on the natural sciences. This textbook is especially designed for the accelerated teaching of French to those Chinese scientists and science students who are to be sent abroad for further study and research.

Course Structure

Students in the first two years of university study generally have twelve hours per week of classes in French. A lesson is studied (as previously mentioned) for twelve hours: two hours are devoted to grammar; two hours to explication de texte; four hours to exercises on vocabulary and idiomatic expressions, grammar rules and the contents of the text; two hours to listening comprehension--often in the language laboratory; one hour to discussion; and one hour to oral presentations. In addition to their classes in French, students have courses in other subjects, e.g., Chinese, politics and philosophy.

Beginning with their third year, specialist students take courses in French composition and translation, as well as in French literature and the French press. Generally speaking, each of these courses is a year-course. When the students are in their fourth year of study, they begin to prepare their graduation thesis.

Students are evaluated by two systems which are in use in China: 1) a system of 5 points (which emanates from the Soviet Union and which is used for final exams); 2) a system of 100 points (which comes from the United States and which is used for tests). Insofar as the Soviet-style system is concern, 5 is the equivalent of A, 4 would be a B, 3 equals C and 2 constitutes a failure. The grades most frequently assigned to the students are 4 and 3.

Teaching Method(s)

For those students in first and second year French who normally start out as beginners, a method is used which emphasizes the skills of listening and speaking. (This does not mean that reading and writing are neglected, however.) According to this "method," the professor should encourage his students to talk as much as possible in class on suitable subjects in the foreign language and he should create an atmosphere that encourages the students to manifest their intelligence and their competence in the language. Apart from the language laboratory, one of the means used to accomplish this goal of "communicative competence" is the use of slides and photographs. The lesson is first studied thoroughly and, when the appropriate slides are projected in the classroom, the students talk in front of them and explain what they see.

As was mentioned previously, each lesson has a specific subject. For example, in the first-level manual, there is a lesson entitled, "Une promenade au Temple du Ciel." For this lesson, use is made of slides which have been taken of the various parts of this religious-historical complex. Another lesson has as its title: "Une excursion à la Grande Muraille." Details are given concerning this historical monument; for example, that the Great Wall is the only construction which can be seen from the moon. Sayings are included, such as: "He who has not climbed the Great Wall is not brave." Still another lesson has as its theme a visit to the Summer Palace in Beijing, and so on.

The more advanced classes, i.e., classes in the third and fourth years, often take the form of seminars. However, there are also courses which consist of formal lectures.

Research into Teaching

Research into teaching is very much encouraged in the People's Republic of China. Research not only contributes to the progress of teaching per se, but also improves the performance of the individual teacher in the classroom. Each professor chooses one or two subjects which are relevant to his work in teaching. Every year, conferences and lectures are organized to facilitate the exchange of information and results of pedagogical research. The appropriate proceedings are then published in scholarly periodicals.

Meetings or conferences on teaching take place at three levels: at the departmental level, at the school or institute level, and at the national level. The National Association of Research into the Teaching of French is an organization at the national level in which all sections or departments of French are represented; it is responsible to the Chinese Ministry of Education. Each year this association organizes one or two conferences during which teaching experiences are exchanged. Its duties also include the elaboration of curriculum and the examination of newly-prepared (but as yet unpublished) manuals.

Faculty/Student Relations

Following upon a selection examination for university entrance, post-secondary students are grouped into "classes." In each class, there are fifteen to twenty students (who normally enter university at age eighteen). Each class has a group leader, a study leader and a cultural leader. Members of the same class study and take their courses together. In China, all university students live in residence; their professors, too, often live within the school complex and are assigned quarters according to age, status and number of children. Teacher/student rapport is good. It is said in China that the professor should have affection for his students and that the student should show respect towards his teachers. Professors and students have frequent contacts outside the classroom. Professors often visit their students in their dormitories, occasionally give them advice on, or help with their work and sometimes assist them in resolving personal, as well as academic problems. A professor is held especially responsible for those of his students who are in their first year of university. Students respect their professors' work; they prepare their classes diligently and always submit their written work on time. Students enjoy good relations with other members of the class; the members of the group help each other in their studies and in everyday life.

At the conclusion of each semester, the Dean presides over a meeting which is held to appreciate and evaluate the quality of teaching by his staff. Each class sends a representative to this meeting. The student representatives present their opinions on faculty teaching, but in a tactful manner.

Post-university Student Work

When Chinese students have completed their post-secondary education, the government, i.e., a government committee, assigns them jobs. Before doing so, however, the Ministry of Education draws up a list of all vacant positions in teaching, the diplomatic service, etc., and establishes a plan for work distribution. Once set up, this plan will be sent to the various educational institutions of higher learning and made known to the students. Each student fills out a questionnaire in which he indicates three or four job preferences (interpreter, diplomat, etc.). Before the jobs are finally handed out, the students are consulted by appropriate department heads so that they have a chance to obtain a desired job. Although there are usually no problems attached to job distribution, some positions are better than others, and it is to be noted that grades play an important role in the obtaining of a preferred job.

Extracurricular Activities

Student life in the People's Republic of China is rich in cultural activities. For example, each semester a song competition is organized; each class prepares two or three songs and presents them in a competition before a jury. Prizes are awarded to the winners. There are frequent lectures on matters of cultural, literary and artistic interest; writers, professors, artists and scientists are invited to give special lectures to the students. When holidays are celebrated, evenings are devoted to music and dance; such "social dances" as the waltz and foxtrot are very popular in China. Every week a Chinese film and a foreign-language film are shown. French films come from the French Embassy in Beijing.

Every year there is a sports competition, while almost every day volleyball, basketball or football games are played. In those institutes with extensive sports facilities (such as the Beijing Languages Institute), ping-pong may be played at almost any hour; swimming pools are open during the summer; in winter, in the north of China, students go skating. In springtime, the school organizes outings to the public parks or the suburbs; students in Beijing, for example, frequently visit the Great Wall. All transportation costs for these excursions are paid by the institution concerned.

Each semester Chinese students are obliged to perform one week of manual work; they may, for example, go out into the countryside to help the peasants harvest the crops or plant trees. The week of physical labor allows the students to become better acquainted with the life of the workers and peasants, and to be in contact with the community at large.

Recent Educational Developments in China

In recent years, the People's Republic of China has taken the initiative in developing relations with foreign countries; these overtures are also visible in the field of education. Each year the Chinese government sends students and researchers to the developed countries so they can receive further training in their area of specialization. Chinese delegations are sent abroad to visit schools and universities. Foreigners are invited to teach in China or to conduct seminars in teacher training.

At the present time, careful attention is being paid in China to restructuring the curriculum in language institutes. Questions are being asked, for example: Should new objectives be adopted for the training of students? Should the students have not just one, but two subjects of specialization? Two subjects of specialization would open up more job possibilities upon graduation. Projects are being drawn up with a view to these (and other) possible changes. In certain institutions, a new course structure has already been put into operation. For example, at the Beijing Languages Institute, the foreign language program now takes five years (instead of four) to complete. During this five-year period, students have two subjects of specialization, either two foreign languages, or Chinese and a foreign language. Upon the conclusion of their studies, they thus receive two diplomas and have the opportunity of becoming foreign language teachers, teachers of Chinese, bilingual or multi-lingual secretaries, interpreters, or translators in two (or more) languages.

* * *

L'enseignement du Français à l'intérieur de la population de la République de Chine.

Ce document constitue une traduction d'une version revue de la présentation que M. Ma donna à la conférence annuelle SALT, 1984, à Houston. M. Ma assista à la conférence, non seulement pour parler des langues étrangéres enseignées en Chine, mais aussi afin d'obtenir plus d'informations sur les techniques SALT en vue d'une incorporation future dans des programmes offerts à l'Insti-

tut de Langues Beijing. Alors que beaucoup de visiteurs étrangers assistent aux conférences SALT depuis beaucoup d'années, Ma Hongzhi est le premier visiteur en provenance de la République de Chine. Ce document traite en grande partie de l'enseignement des langues étrangere aux habitants de la République de Chine, et plus particuliérement de la langue Française au niveau universitaire, comprenant la nature des livres scolaires, structure des cours, méthodes d'enseignement et recherche d'enseignement entre autre.

Französischunterricht in der Volksrepublik China.

Diese Abhandlung stellt eine Übersetzung einer Bearbeitung von Herrn Mas Vortrag an der 1984er jährlichen SALT Tagung in Houston dar. Herr Ma nahm an der Tagung teil, nicht nur um einen Vortrag über Fremdsprachenunterricht in China zu halten, sondern auch um mehr informationen über SALT-Technik zu lernen, die sie in Programme, die an den Beijing Sprachinstituten angeboten werden, eventuell zukünftig einverleiben könnten. Obwohl in den letzten Jahren viele Besucher aus fremden Ländern an den SALT-Tagungen teilgenommen haben, ist Herr Ma Hongzhi der erste Besucher aus der Volksrepublik China. Die Abhandlung befaßt sich mit dem allgemeinen Hintergrund des Fremdsprachenunterrichts in der Volksrepublik China and besonders mit dem Französischstudium auf der Universität, wobei sie, unter anderem, die Art der Lehrbücher, die Strukturierung des Kurses, Lehrmethoden und Lehrforschung beinhaltet.

La enseñanza de Francés en la República Popular China.

Este trabajo es una traducción del trabajo presentado en 1984 por el Sr. Ma en la conferencia anual SALT en Houston, Texas. El Sr. Ma asistió a la conferencia no solo a hablar de la enseñanza de idiomas extranjeros en China, sino también para aprender técnicas SALT que podrián incorporarse a los programas de enseñanza del instituto de Lenguaje de Beijing. Aunque muchos extranjeros han atendido las conferencias SALT, Ma Hongzhi es el primer visitante de la República Popular China. En el trabajo se presenta un panorama general de la enseñanza de idiomas extranjeros en China, especialmente el francés. También se describen libros de texto, la estructura de los cursos, y los métodos de enseñanza e investigación.

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B.E.A.M.
A Learning System for Disruptive Youths

Edward R. Zenker
and
Diana Z. Frey

Abstract. The authors describe in detail the B.E.A.M. Learning System for the disruptive classroom. This system provides a programmed approach to establish the following: Behavior, Emotional tone, Attitude and Motivation conducive to learning. Techniques include relaxation training, visual imagery enhancement and positive self statement. Specific daily program content is suggested as well as a program evaluation method.

Introduction

The students of Ms. Smith's period 5 English class enter the classroom shouting, chasing one another and performing general "horseplay" that is irritating to Ms. Smith. Period 5 is a tenth grade class, although their behavior is reminiscent of much younger students. It takes Ms. Smith approximately fifteen minutes to settle the class and to direct their attention towards completion of the daily drill. The rest of the period is spent in "open battle" with various students on matters that are not so severe as to warrant an office referral. They are, however, annoying enough to cause Ms. Smith to feel haggard, lifeless and frustrated at the end of each school day. These are not bad kids, really, just "itchy."

The preceding situation is, unfortunately, all too common in today's schools. A possible cause may be the inability of students to selectively attend to appropriate educational cues because they are simply overwhelmed and excessively excited by an abundance of extraneous cues. This results in agitated movement and the inability to develop a "BEAM" for learning. In effect, students should acquire the following:

B - Behavior conducive to learning
E - Emotional tone conducive to learning
A - Attitude conducive to learning
M - Motivation conducive to learning

The Program

The BEAM program is designed to facilitate a classroom that is conducive to learning. The program is a sequenced, ten day series. However, the methodology can easily be extended without disorienting the total class program. The program is a learning system and, as such, will allow for the application to any content area. It structures the class organization and focuses attention on educational tasks rather than disruptive behavior.

Program Overview

Each day of the program includes:

1. The focusing of attention
2. Relaxation training
3. Visual imagery enhancement
4. Positive self-statements
5. The class lesson for each day

The Focusing of Attention

The initial focusing of attention and beginning of the class activity is accomplished by the teacher's non-verbally directing class attention to the statement, "Now, it is learning time." This is written on the board or posted in a conspicuous place in the classroom. What is expected by such a procedure is the initiating of a non-verbal, conditioning cue that signals the start of class activity.

Relaxation Training

Numerous studies have shown the impact of relaxation techniques as a facilitator of academic progress. The physiological basis for facilitating academic achievement through meditation has been established by Bloomfield, Cain, Jaffe & Kory (1975). Jampolsky (1970), as well as Carter & Synolds (1974), has demonstrated the values of suggestive relaxation in reducing letter and number reversals. Krippner (1966) has utilized hypnosis to facilitate the reading process and improve reading test scores on a standardized achievement measure (The California Reading Test). Other studies are readily available within the literature which indicate the great facilitative value of suggestive-relaxation training in the field of education. One has only to review the work of Lozanov (1971, 1978) to appreciate the suggestive-relaxation methodologies that have been established to enhance the learning experience.

Furthermore, it is reasonable to assume that a student presently experiencing distraction of either internal or external nature will find it difficult attending to appropriate educational tasks. In fact, there are many studies to support the premise that the inability to filter distraction is the primary factor in learning disability (e.g., Ross, 1977). Other evidence (Levine, 1976) suggests that relaxation training prior to accomplishing an educational task will minimize the difficulty in attending and allow for the achievement of the selected educational objective.

Visual Imagery Enhancement

The relation of visual imagery to the learning process is also well documented. The use of visual imagery training has been associated with increased measures of learning (Alesandrini, 1982). The BEAM program incorporates visual imagery training as an enhancement to the relaxation and suggestive process. The visual imagery training in the BEAM program is sequential and becomes more abstract and open-ended as the program develops.

Positive Self-statement

The works of Purkey (1970), Prichard (1978) and Barber (1979), as well as a plethora of others, demonstrate quite clearly the important roles that self-concept and self-statements play in potentiating academic achievement. Good students see themselves positively; poor students negatively. Furthermore, poor students tend to indicate their thinking with self-deprecating and failure-oriented statements. The BEAM program attempts to eradicate these negative thoughts and replace them with positive, success-oriented self-statements.

The Class Lesson for Each Day

After the approximate ten-minute taped program, the teacher is to provide the daily class lesson. The lesson format presented in this program is deliberately general, open ended, and receptive to change. The teacher should not feel restricted to its format. The intent of the lesson format is to facilitate ten well-structured, pre-planned lessons with adequate continuity.

Program Evaluation

Pre/post teacher evaluation forms are included to assist in determining program effectiveness. Teacher may also be interested in utilizing the student evaluation form offered as a means of facilitating sincere communication between teacher and student.

Program Scripts

For each day of the program, the teacher presents to the students the Relaxation Passage, the appropriate Visual

Imagery Training Passage for that day and the Positive Self-Statement Passage. The authors suggest pre-recording each day's script on a cassette tape to facilitate the ease of the program.

Relaxation Passage

Today we will use a method that makes learning easier and more pleasant for you than learning may have been in the past. You will find that it will be easier for you to concentrate on things that must be learned and you will find that you will be able to learn more things in less time. Perhaps for the first time in your school career, you will actually find the learning experience fun.

Now, sit in a comfortable position, being careful not to slouch, as slouching becomes uncomfortable to most people after several minutes. Make sure your legs are uncrossed and that your eyes are closed. Allow yourself to relax. As you begin to relax, don't be afraid to move into a new position if you feel that you must as you attempt to get comfortable.

During the program, you will be giving yourself suggestions that will help you relax. As you relax, you will feel a heaviness and a warmth all over and you will relax all the more.

Keeping your eyes closed, and sitting quietly, inhale slowly and deeply. As you inhale, say the word "in" to yourself. Hold your breath for a short time and then exhale, saying the word "out" to yourself as you do. Say these words to yourself. Do not move your lips or mumble out loud. Breathe several times in this manner.... Good; breathe deeply and evenly, try to get in touch with yourself. Notice any new feelings or experiences as you relax more and more.

Keeping your eyes closed, make a fist with your right hand. Make sure that your fist is supported on your desk or in your lap and clench your fist tightly, feel the tension as it runs through your arm...tighter, more tense; now let go...relax your hand...notice the heaviness and warmth that is now present. Clench your right fist once again feeling the tension that runs throughout your arm and fist. Just let it go limp. Feel the relaxed feeling that is now present in your right arm. Good, now we will tense and relax the left fist. Do this twice with your left fist just as you did with your right. Tense and relax, tense and relax, making sure that you experience the relaxed hand and arm as it is freed of tension. How heavy your arms now feel, how relaxed you now are. It is a good feeling to be relaxed. Just allow yourself to be relaxed and at peace. Allow your thoughts to roam in and out of your mind. Be relaxed.

Visual Imagery: Passage for Day One

Now we will practice forming a mental picture. I would like for you to choose some object with which you are familiar. Perhaps it is a school book, perhaps it is a basketball. Regardless of what the object is, try to see that object in your imagination, see its color and shape, explore it with your imagination. Look at the details of the object. Look at it closely and from far away. Picture it in your mind.

Visual Imagery: Passage for Day Two/Six

Keeping your eyes closed and remaining relaxed, allow yourself to go to a beach...you can be by yourself or with others on the beach, just see the beach in your imagination...feel the sand as it brushes across the back of your legs as you walk along the beach...feel the sand get firm and cool as you walk towards the surf. By the surf, you see the white foam as it crashes on the shore...over and over again. The surf comes crashing to the shore. You hear the scraping sound of tiny shells and coral as the surf is dragged out to sea in a never-ending process that goes on and on...and over and over again.

Perhaps in the distance you can hear the shrill cry of the seagulls. Their sound tells you that they are at peace.

Perhaps now you are aware of the sunlight as it warms your face...it is warm and comfortable...but your face doesn't get too warm as the cool ocean mist blows on your face and through your hair. You breathe deeply and inhale the fresh salt air and...you are at peace on the beach as you hear the surf and the gulls, smell the salt air and feel the sun and mist. You are so relaxed.

Visual Imagery: Passage for Day Three/Seven

Keeping your eyes closed and remaining relaxed, allow yourself to be on the side of a grassy hill. The air is warm and the sun is shining. You can feel the warmth of the sun as it touches your face. But it is not too hot, as there is a hint of coolness in the breeze that gently blows, swaying the nearby bushes and small trees. Perhaps you are alone on the side of the hill or perhaps you are with another. But it is quiet on the side of the hill as you feel the warmth of the sun on your face and inhale the fresh air just barely scented with the smell of flowers. You are at peace and relaxed as you look to the sky. The sky is blue and clear of all but a few soft, billowy clouds that look like puffs of cotton, soft and gentle. As you stare at the graceful clouds, they seem to change shapes as they are blown by the gentle breeze. Perhaps the clouds look like a face, perhaps an animal. It is not important that you and I see the same thing in the cloud. Stare at the clouds within your imagination and see the shape or shapes that appear.

Visual Imagery: Passage for Day Four/Eight

Keeping your eyes closed and remaining relaxed, try to visualize the numbers 1 through 10 as they are counted for you. Perhaps you would like to visualize them as if they are written on a piece of paper, perhaps you would like to envision them as three dimensional, block-like objects. Either way is fine. You can see them in various colors or in black and white. Now, making sure you stay relaxed as you see the number 1 in your imagination, explore it...perhaps twist it in your imagination...now see a number 2...3.... You have control over seeing the number and manipulating it...turning it...exploring it...4...5...feel free to move it first one way and then another...6...7...8...9. Good, see the number 10.

Visual Imagery: Passage For Day Five/Nine

Keeping your eyes closed and allowing yourself to stay relaxed, imagine that you are holding a snapshot. It's at arm's length and the person pictured is not clearly visible. Slowly you bring the picture towards you and you notice that the person in the picture is yourself. You are aware of your facial features, your eyes, especially your hair and clothes. The picture is of you working, doing school work and you have a relaxed, calm expression. You are doing well in school. You are being very successful. You are doing a task that at first is hard for you. However, slowly you are able to master the task. Perhaps the task is a reading assignment, perhaps the task is a math operation such as multiplying fractions. It is not important that you tell anyone your task...what is important is that you see yourself in the snapshot as being very successful, successfully doing a school task as you are so capable of doing.

Visual Imagery: Passage for Day Ten

As you remain quiet and relaxed, try to form a clear mental picture of some object or thing of your choosing. Try to see it clearly, notice details, see the object of your choosing as accurately and exactly as you can.

Positive Self-Statement

Just as you can allow yourself to relax, just as you can visualize a clear mental picture, so you can allow yourself to learn other things; for you can experience things and put things together more than you think you can. You can learn whatever you must learn and be more comfortable while doing so. For you are a worthwhile and thinking person, as you will be able to see as you attend to today's lesson. Now, open your eyes and we will be ready to begin.

Daily Class Schedule

1. Direct student attention
    a. As the students enter the classroom, turn off lights leaving blinds open and shades up.
    b. Point to the blackboard upon which is written:

IT IS NOW LEARNING TIME

2. When the students are seated, play the appropriate cassette.
3. At the conclusion of the cassette, proceed with the scheduled lesson.

CLASS LESSON

(To be filled in by the teacher)

Lesson Objectives: (Listed on the board)
Students will be able to:
Materials Needed:
Motivation:
Procedure:
Evaluation:

Teacher Pre/Post Evaluation

Pre-program Areas of Need — Post-program Areas of Improvement

Target Behaviors

____Students follow directions/work independently ____
____Students come to class on time ____
____Students listen when someone else is talking ____
____Students attend and concentrate ____
____Students complete class assignments ____
____Students raise hands before speaking ____
____Students remain seated ____
____Students display appropriate levels of activity ____
____Other:
____ ____
____ ____

Student Evaluation Form

A. Circle the number that best describes your feelings concerning the last ten days.

	Never	Sometimes	Always
1. I prepared for class when the teacher pointed to NOW IT IS LEARNING TIME	1	2	3
2. The breathing exercises helped helped me to feel more relaxed	1	2	3
3. I could feel the tension in my fist when clenched and the lack of tension when it was relaxed	1	2	3
4. I could picture those things in my mind that I was asked to picture	1	2	3
5. I felt better about myself after listening to the tapes	1	2	3
6. I think the taped instructions helped me to get more from the class lesson	1	2	3

B. What is your opinion of the program?

NAME: ______________________________

CLASS: ______________________________

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* * *

BEAM: Un systéme d'apprentissage pour les jeunes interrompant la classe.

Les auteurs décrivent en détails le systéme d'apprentissage BEAM pour la classe interrompue. Le systéme fournit une approche programmée afin d'établir ce qui suit:

--Comportement (Behavior)
--Ton émotionnel (Emotional Tone)
--Attitude et
--Motivation

favorable à l'apprentissage. Les techniques comprennent l'entrainement à la relaxation, la mise en valeur de l'imagination visuelle et son exposé positif. Le contenu du programme spécifique journalier est suggéré ainsi que la méthode d'évaluation du programme.

BEAM: Ein Lernsystem für Jugenliche, die den Unterricht Stören.

Die Autoren berichten eingehend über das BEAM Lernsystem im gestörten Unterricht. Das System stellt eine programmierte Methode zur Verfügung, die die folgenden lernfördernden Faktoren festsetzt: Benehmen, Gefühlsatmosphäre, Einstellung, und Motivierung. Die Techniken schlieben Entspannungstraining, Verstärkung der optischen Bilder und positive Selbstdarstellung ein. Man schlägt den Inhalt zum Programmbewertung.

BEAM: Un sistema de enseñanza para jóvenes de mal comportamiento en el salón de clase.

En este trabajo los autores describen el método BEAM de enseñanza para jóvenes de mal comportamiento en el salón de clase. Este sistema provee un método programado para establecer los aspectos siguientes, mismos que se consideran útiles en la enseñanza:

conducta,
tono emocional,
actitud, y
motivación

Entre las técnicas se incluyen: relajación, facilitación de la imaginación visual y mejoramiento del concepto personal. Se sugiere que se desarolle un programa de trabajo diariamente y que se incluya un método de evaluación.

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Guidelines for Contributors

The Editor welcomes submission of manuscripts on an interdisciplinary nature relevant to all aspects of suggestive learning-teaching-therapy counseling within the theoretical and procedural confines of Suggestology and/or Suggestopedia. The JOURNAL FOR THE SOCIETY OF ACCELERATIVE LEARNING AND TEACHING will publish a wide variety of articles - including critical reviews, theoretical analyses, speculative papers, case studies, quasi-experimental studies, as well as reports of empirical research (basic or applied) of major significance. The basic focus is Suggestopedia theory , research and application.

MANUSCRIPTS should be typed on one side of standard (8 ½ x 11 non-corrasable) bond typewriter paper, clearly mimeographed or multilithed. *Do not use ditto.* The original and three copies (carbon or dry electrostatic copies) should be submitted. Authors should also keep a personal copy to check against proofs. *All material must be double-spaced*, with ample margins (1 ½ in. on each side and 1 ½ on top and bottom). Any paper should not be longer than 20 typewritten pages, excluding bibliography, footnotes, tables, figures, etc. In special cases, longer papers may be submitted for publication.

REFERENCES should follow APA style. Authors should follow the standardized bibliographic format for reference citation as shown in the American Psychological Association Manual (1974). In the body of the text, the published work of others should be referred to by name and publication date in parentheses as follows, "Prichard and Taylor (1976) reported..." In the bibliography at the end, the referred-to articles should be listed fully in alphabetical order by author(s), title and publication source information as follows, "Prichard, A. & Taylor, J. Adapting the Lozanov method for remedial instruction. *Journal of Suggestive-Accelerative Learning and Teaching*, 1976 (Sum), 1(2), 107-115." Footnotes should be used to refer to unpublished material not generally available to readers, for example in the text, "Schuster claimed that relaxation..." A list of all footnotes should be typed on a separate sheet and placed between the end of the text and before the bibliography. An example of an entry in this list of footnotes is, "Schuster, D.H. The effects of relaxation and suggestions on the learning of Spanish words. Unpublished report, Psychology Department, Iowa State University, 1972, 6pp."

TABLES AND FIGURES should be kept to an absolute minimum and should supplement rather than duplicate text material. Each table should be typed on a separate sheet and be placed after the reference section of the manuscript. Figures should be submitted in a form suitable for photographic reproduction. Use India ink on a good grade of drawing paper. Photographs (black and white only) submitted as figures should be 5 x 7 inch glossy prints, uncropped and marked lightly on the back with a pencil. Submit all figures, photographs and tables with each of the four sets of manuscript materials.

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Using the Means of Suggestion to Harmonize with the Barriers*

Marilyn Hughes

Abstract Rather than talk about the barriers and the means of suggestion theoretically, I am choosing to give actual classroom examples where the barriers were demonstrated. Parts of actual lessons are reported in detail to give listeners the contextual view from which examples are taken. The core of this presentation is student written work in which they reveal their barriers.

The theme of our talk today is harmony--harmonizing with the barriers. Although I primarily work with English as a Foreign Language with aviation students, I am frequently invited into elementary classrooms to demonstrate Optimalearning. These demonstrations are usually for two week periods, one and a half hours a day. The subjects I have demonstrated are social studies, science, math and grammar.

When I first enter a classroom, I am very careful about my dual plane. I believe that everyone deserves my respect, that everyone has untapped potential. For those first few minutes until my prestige has time to emerge, my dual plane is broadcasting total respect and appreciation for everyone.

I know where I am going; I know where I hope the students will follow. I know that I'm going to pay attention to them and at times will abandon my plans and follow their direction--if it will lead us to the same objective. By watching my intonation and projecting confidence, my prestige emerges and only then, after I sense that I have rapport, will I start using pseudo-passiveness, change the rhythm, and suggest the child-like state.

Lozanov talks about three barriers: the intuitive, the critical/logical and the ethical. These are barriers to suggestion and to communication. The student's intuitive barrier is what senses the teacher's dual plane--a feeling that the teacher can or can't be trusted. The critical/logical barrier senses if the information makes "sense," is logical.

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The ethical barrier senses whether an issue is moral or "right" or "wrong."

I have a favorite metaphor that I would like to share with you. One interpretation of this metaphor pertains to the three barriers. Rather than a story, like most metaphors, this is a description of a picture. In this picture, we can only see a portion at a time. The first part of the picture we see is the face of a caveman. .The caveman's face looks very angry, violent. How do you picture his face? Is his mouth open or closed? Are his eyes narrowed or wide? Do you imagine any sounds?

In his hand he is holding a club, raised, ready to strike. All we can see of the picture so far is the angry caveman with a club in his raised hand.

As we look at the picture, we see the scene widen just enough to reveal what is causing this violent action of the caveman--it is a saber-toothed tiger, crouched, ready to spring. How do you imagine the tiger...is he large or small...any sounds?

Initially when we saw the caveman and his violence, our intuitive barrier would be alarmed. This is a potential threat to us, this may be a life-threatening situation. But when we see the object of the violence, when we see the saber-toothed tiger, logic has asserted itself into the picture and the critical/logical barrier is satisfied, is harmonized with. This is a logical situation. Here we have a caveman confronted with a potential threat and he is reacting logically.

But there is more to the picture. Our view widens, and now we can see the entire picture. In addition to the caveman and the tiger, we see standing behind the caveman, his wife and children. He is protecting them from the threat of the tiger. Now, not only is our critical/logical barrier satisfied, but our ethical barrier is satisfied as well. This is a very good, ethical, moral thing the caveman is doing.

So when we see the whole picture, it makes sense, we can harmonize and understand it ethically, critically/logically and intuitively; maybe we can justify the violence.

I like to remember this metaphor, because I know that when the students first encounter me in the classroom, the first impression is the one sensed by the intuitive barriers and will always be associated and coded with my presence. From the first moment my dual plane will harmonize or alarm their intuitive barrier. The limited first view of the caveman is like the students' limited view of us at first meeting.

When more of us is seen (when their picture of us widens), they will have more information to assess us using their critical/logical and ethical barriers. Unlike the caveman, I want my actions to be seen as logical and ethical by my students.

I would like to share with you some specific examples that I have from the classroom showing ways how children exhibit these barriers. How they exhibit the content or little clues as to what their barriers are made up of. What alarms them, what doesn't alarm them, what satisfies them, what doesn't. I'd like to start with the critical/logical barrier and show you some sentences that some fourth graders wrote for me. This was a class in science that was studying "sound." As we went through the two weeks, we came upon some questions that the class and I discovered together we couldn't answer. They were mostly medically complex questions that we didn't have the resources to research. I had invited an eye-ears-nose-throat doctor to visit class on the last day of the unit. He would be able to answer any questions we had. So as a class, we listed questions on the board and kept them there. (These suggested "curiosity"--an element of the child-like state.) Like many good plans, this one went astray, but had a hidden bonus. On the day the doctor was to visit, he had to perform emergency surgery. That was okay with the kids, that was what a doctor did--he had emergencies. They knew that, and they were comfortable with that. In this situation, both their critical/logical and ethical barriers were harmonized.

What the children did was write out their questions for the doctor and I took them to him. He, in turn, wrote responses back to the class. The doctor also did an exciting thing. When he responded, he didn't just answer their questions, but he asked them a question of his own. The question was the classic one: "If a tree falls in a forest and there is no one there to hear it, does it make a sound?" These students had been studying sound for two weeks, so they had lots of opinions, and they aren't all the same. I'd like to share them with you:

Courtney: "Yes, the animals here the sound." (sic)

Bill: "Yes, because if someone had a recorder there it could pick it up." (sic)

Bill is thinking along the same lines as Courtney. Notice that these are fourth grade children and we are watching a very strong desire for logic to emerge. They really demand and enjoy logic and they get uncomfortable when it's not present. Here are two other examples:

Kevin: "Yes, when other trees fall you can hear them." (sic)

Christine: "Yes, even if know one is their, there would still be a sound. It's like if a dog barks and know one is there it will still make a sound so yes." (sic)

Now, of course, I'm ending with my favorite one, and this really states for me how strong the need and demand for logic is. This young man says:

"If no one was there, how did you know it fell."

As examples of the intuitive barrier, in a fifth grade class studying the Revoluntionary War, this class had decided to create their own newspaper. This was their own idea. They were going to date it July 4, 1776, and this was going to be a special edition. However, the class got into a conflict over what to call it. What is the name going to be. So we decided to have an election. They nominated titles, campaigned and voted. It got to be a very heated issue. Some of the students got very attached to their titles and were campaigning very strongly--stretching the campaign rules. The campaigning abuses were a natural lead-in to discussing why there are voting laws and what these laws might be. Here again we were looking at how closely the barriers intertwine, and don't separate themselves neatly. There was the intuitive issue of strong emotional attachment to their nominated titles that they liked so well, and their ethical barriers were also alarmed by the campaigning techniques. They wanted to know about the laws that control campaigning and voting. Here again, a beautiful teaching opportunity was created by the students.

The nominations were finally whittled down to just two, and they voted. After the election, obviously only one title could win, so some of the students were disappointed. As soon as the election results were in, I asked all the students to take out a piece of paper and write down anything that symbolized, either in word or picture, how they were feeling right then. I knew that there was some strong emotion going on, there was real potential intuitive barrier alarm here that needed grounding, acknowledging, that needed harmonizing. So one of the first steps was to have them just express it on paper. I'd like to share some of their responses with you:

Rod wrote: "I'm very SORRY!!" (sic)

He used nice big letters, but they are tidy. So he was obviously not too overwhelmed by the experience, but had enough feeling that he was expressing his regrets.

Here's Lisa:
1. Grrrrrrrrrrrrrrreat
2. terrific
3. supurb
4. splendid
5. special (sic)

There's emotion in all those r's, but it is also very carefully numbered, and she is not so overwhelmed that she abandons order.

The last example: "! I
love
! it
Love
Love
It IT ! " (sic)

He loves it! Thinks it's just terrific. No order, just emotion.

So these things are objectively showing up all the time in our classrooms. Kids' responses show their barriers when they are alarmed or harmonized with.

I'm going to spend a few more minutes on some more children's illustrations of the barriers, because I really want to emphasize how important acknowledging the barriers is to effective communication in teaching. A piece of music that I use in the classroom is recorded by Pete Seeger and it is called "The Song of Independence." As Ivan Barzakov mentioned earlier, freedom is also an Optimalearning objective. The freedom for students to use their own self-mastery. In the Revolutionary War classroom, we discuss freedom. It is one of the concepts in the affective domain. I don't believe in backing away from affective material because we teach whole children, not just their cognitive portion. Students need the opportunity to express all their capacities.

This song was written by a four-year-old boy. He was singing it in the bathtub and his father wrote it down. In it he sings about wanting the freedom to sit and do nothing, go and play with the pandas, not eat his vegetables, etc. He is talking about two different kinds of freedom--the freedom from some things and the freedom to do other things. I have not found a classroom that did not enjoy this song--whether adult or elementary. One of the things I ask the students to do after listening to the song, is to write their own song of independence. To write both freedoms "from" something and freedom "to do" or be something.

The following examples of children's own songs of independence (in this case fifth graders) exhibit how really intuitively sensitive and how ethical children are. These examples illustrate a combination of intuitive criteria of safety and protection, and ethical criteria of justice and "rightness."

Billy wrote: "I want fedum to speak.
I want the fedom from violence." (sic)

Mason wrote: "I want the fredom to eat.
I want the fredom from sadness." (sic)
(Mason in real life, is a sad boy.)

Here is a particularly interesting one. This is Michelle's:
"I want the freedom from tests." (sic)

Michelle is a straight "A" student. She is an over-achiever and not until we saw this did we know or have an idea of the anxiety she felt every time she had to perform well on a test. A test alarmed her intuitive barrier.

This is from Soeren: "I want the freedom to live.
I want the freedom from pain!" (sic)

I have two more examples where you can see how difficult it is to separate the intuitive barrier from the ethical barrier. They're so closely interwoven. These students are 10 or 11 years old. Here are two that I thought may be a better example of the ethical barrier, but they are also intuitive.

Bobby: "I want the freedom to be heard." (sic)

Ashley: "I want the freedom to be alone whenever I wish without someone hanging around me. I want the freedom from hard labor at school and sometimes at home." (sic)
(Ashley is very popular, by the way.)

I think a lot of you would agree with their freedoms. You could just pick them up and adopt them for yourself.

To continue with some examples of the content of the ethical barrier, in a Civil War classroom, we had studied the conditions of the North and South, before the war. The students were really excited about the way they were learning. In all these classrooms I use the Optimalearning system. They had a lot of varied information. Some was told in story form, some through activities. After we had talked about the conditions that began the war, I asked them, because there were strong and involved discussions about who was right or who was wrong, who had the best chance of winning and what it might feel like to be in each of those positions. I had the students write a paragraph that would describe how they would feel if they were there. They had three choices. They could either be a confederate soldier, a union soldier, or a slave. How would they imagine it would be at the time of the Civil War. I'd like to read several of these to you and I would like to do them as a concert reading with the music that we use in the classroom with some of our activities. ("Songs of the North and South," by the Mormon Tabernacle Choir)

> Jamie (a girl), writing as a Union soldier:
> It's terrible to march all day, but you're doing it for the North. Slavery is wrong. That's what the war is about, but you don't mind, you have the advantage. More factories to manufacture blankets, weapons, and you have more railroads for quicker transportation of men, food, and weapons. You also have more money. Abraham Lincoln is right. Slavery is terrible. Think of it! To have to work all day, and get whipped and starved! Thank goodness for the underground railroad! March, march, march, march, march! (sic)
>
> Justin, also writing as a Union soldier:
> I wouldn't like it at all having to kill other humans. And the idea of people in the South taking free people from their own country and buying and selling them. And separating their families. Because you should never price a person because each person is worth more than all the money and riches in the whole world. (sic)
>
> Jeff:
> I am a Union soldier and feel like I am fighting for what is right. Owning slaves is bad. It should be illegal. People do not have the right to have slaves. They do not have the right to own people. All men are created equals. Nobody is better than anyone else. Every man should be free. (sic)
>
> Matthew, a Confederate soldier:
> It was hard. I didn't know what to do. I thought some against slavery but it was my state and I needed workers and it was nice not having to work. I think people should have slaves. Well people with a lot of money and a plantation. I'm scared to go to war. I may never see home again. The Union is so big and they have so many people. My brother was killed! (sic)

A boy, writing as a slave:
I am a slave and I enjoy being one because I have a very good life and they treat me well. I am never beaten. It is very nice to be able to leave it. All my family is with me. I will be going to New York to see my father. (sic)

I believe the expression that these children show and their capacity to fantasize, to get inside of what it might be like, was really interesting. Especially the last boy who wrote about being a slave. His ethical barrier was strongly alarmed. He was into denial. We had talked about the fact that there were some good plantation owners. There were some people who cared, but that was not the condition of most of the slaves in the South. But that boy chose to write from the position and feeling of a well-treated slave because ethically he was alarmed by the concept of mistreating, selling and buying people. I included that one because I thought it was a good expression of the ethical essence children have. One of the other barriers that we are going to talk about is the barrier to acceleration--the fear that comes when a student experiences learning more, faster and easier than he believes he is capable of. Lozanov talked about it, where the students would accelerate to a point and then they would disbelieve that they could be doing so well and having so much fun. It was so easy, how could this happen so easily? Their test scores reflect this doubt. When they move through this barrier to acceleration, the scores dramatically increase. In the elementary classroom, I run into this learning block to acceleration very quickly. It traditionally happens to me on the third day in a two-week period, when the children know I'm going to be in the classroom for two weeks. On the third day, when I walk into the classroom, there is a change. I can feel it as soon as I walk in. Let's take a sixth grade classroom studying WWII as an example.

The first thing I do on that first day is tell them that they're going to have an exciting lesson. We are going to be discovering the relationship between things that are happening today, like video games and mothers working, that began back with the Second World War. I ask them to put their social studies textbook on their desks as a way of grounding them, reminding them that this is what our activities relate to. (We are not going to open those books for the whole two weeks as a class assignment. But what I know will happen is that they will voluntarily read the sections on WWII because they will become so curious.)

I talk a little bit about using beautiful music in the class and I turn on a piece of baroque music. I love Pachelbel and so do the kids. As I talk about the musical instruments harmonizing together, I say, "Music is beautiful, interesting. It reminds me of nature, it reminds me of some of my favorite places in nature." Then I go into a favorite landscape guided imagery and bridge into what I will be doing next. At the end of the favorite landscape imagery, I suggest that we can imagine a theater. Something exciting is happening in this theater, something we all want to see. It's going to be a play, and we are going to be the players. We are going to be the performers in this play. It is going to be exciting and interesting, and as we open our eyes here in the room, the front of the room is the stage and the play is the Second World War.

We locate north, south, east and west in the room and label them. Then in the first six minutes we act out the first three years of the war. The next week we will do the last three years of the war. Pearl Harbor is a good dividing line for WWII. I have made up date cards and name tags in advance (using major countries, personalities, special vocabulary words). I remind them that at the end of studying WWI, they learned about some events that led to WWII. One of the first significant events in the Second World War was when Germany invaded Poland, and ask what year that was. I ask for a volunteer to be the calendar and hold up cards showing the years going by. Then I ask, "Who will be Germany?" "Who will be Poland?" and put name tags on the volunteers. "Where's Poland, to the east or west of Germany?" Using the front of the classroom, we recreate the globe. The reason I chose to do this was I wanted them to know how much of the world was involved in WWII. As the students volunteer for name tags, I position them geographically in relation to the other countries already in position, i.e., Italy, France, England. We even have a "Lend Lease." Lend Lease has a neat job; he gets to walk between England and the United States as often as he wants.

In six minutes, we have created the globe. Day One is exciting, and they are eager and ready for Day Two. I end Day One by saying that anyone who has any memorabilia from grandparents who were in WWII, please bring it from home. They can also bring models, books or pictures. On Day Two I ask, "Who brought something from home?" That is all I ever say at the beginning of each day. I say it one time as a question, not as a demand. In this classroom, their response to the question was an objective demonstration of the barrier to acceleration.

On Day Two one student brought something from home. I asked him to show it to the class and we talked about it. On Day Three, when I walked into the classroom, the feeling in the air was "This is too good to be true." "I don't believe this will continue." "So it went real fast, it was real interesting and there were new things to do on Monday and Tuesday, but this isn't right. I talked to my other friends who are studying WWII and they aren't doing this. But then, they don't know about Lend Lease, and I do." Although the above quotations are my own interpretation of what I sensed the children were thinking, students have told me at the end of the two weeks that those were the kinds of things that were going through their heads.

At this point, at the beginning of Day Three, I know that it's important for me not to change one thing that I do. I must act almost as if nothing has changed in the room. They must see that I am still going to relate to them in the way that I have been. That I am still going to provide structure for them that they can be involved in. That I don't care whether they are worried, fearful or excited--I love them just the same. I respect their ability and we're going to continue. We're going to go forward. Once they see that I mean that, that I don't change, even when they are questioning, I have harmonized with their barrier to acceleration. At this delicate moment, I am acutely aware of my dual plane, maintain a steady, less varied rhythm, and use good eye contact. From that point on they go on to greater participation than ever before and with greater enthusiasm.

What happened was that from one person bringing something from home on the third day, by the end of the second week, every student had brought not only one thing, but had brought bags full of things. Talk about motivated to know! They would bring medals, uniforms, even mortar shell casings. They scoured their neighborhoods, talked to older people in their neighborhoods who had been in the war. They created friendships with these people. They wrote reports so they could report accurately. They did their own research without us ever asking for it.

That degree of participation was a measure for me of the break through the barrier to acceleration. A footnote on this class: We studied WWII together in November. Their regular classroom teacher told me that at their Christmas party in December, the majority of gifts exchanged were WWII related.

I want to show you something from English as a Foreign Language classroom. These students are all adult Spanish-speaking males, 19 to 30 years old. These test scores are raw data, but they illustrate Lozanov's experience with the barrier to acceleration.

Lozanov's theory, as I understand it, is that when a student's barrier to acceleration occurs, this will be reflected in the student's weekly test score. The scores

Table 1

Weekly Test Scores in Spanish

Student Name	Week 1	Week 2	Week 3	Week 4	Week 5
Dave	100%	88%	100%	100%	100%
Paul	84%	89%	89%	83%	90%
James	89%	98%	75%	85%	90%
Charles	100%	94%	64%	83%	94%
Don	83%	98%	80%	98%	92%
Alex	91%	94%	78%	88%	92%

will initially be high, but after two or three tests, an element of disbelief (his barrier) in his ability to learn so much material so easily will cause the test score to drop. Like the WWII classroom, when the student passes through his barrier to acceleration, he will learn faster and easier.

In the table above, Dave had his lowest score in week two. So it was in the second week that he hit his barrier to acceleration. Dave also spoke better English than some of the others when he arrived. What happened for Dave was that beginning in week three, he stopped translating in his head, and he was thinking in English.

Paul did not hit his lowest score until week four. He reached his highest score after passing through his barrier.

The other four students in this class all hit their barrier in week three. Charles had a dental problem, so his score in week three is probably lower than it normally would have been.

In conclusion, I think that barriers are very important protection for us from things that we perceive as harmful. The idea of harmonizing with a student's barrier is one of the most important concepts for me in Suggestology and Optimalearning. Rather than push down, or push through a student's barrier, the idea of harmonizing with it so that the student can lower the barrier himself when he is ready, is very appealing to a humanitarian approach in education.

By increasing my awareness of student's barriers, I have learned to be more aware of my own barriers. By observing myself, I can notice when I am raising a barrier. I always learn something new about myself by paying attention to the experience or event that alarmed a personal barrier. A unique benefit to the me as a teacher using Optimalearning, is that I learn as much from my students as they learn from me. Every teaching day is exciting and joyful for all of us.

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* * *

L'harmonisation de la suggestion et des barrières antisuggestives.

Ce rapport a été présenté au symposium SALT en 1982 à Fort Collins (Colorado). Au lieu de parler théoriquement des barrières antisuggestives et du rôle et des moyens de la suggestion, l'auteur done des exemples de barrières qui ont été démontrées dans la salle de classe. Des parties de certaines leçons sont relatées en détail afin de donner aux auditeurs/lecteurs le contexte exact d'où les exemples ont été pris. L'essentiel de cette présentation comprend des travaux écrits où les étudiants révélent leurs barriéres.

Der Bebrauch der Suggestionsmittel um mit den Barrieren zu harmonisieren.

Dieser Vortrag wurde an der 1982 SALT-Tagung in Ft. Collins, Colorado gehalten. Statt über die Suggestionsbarrieren und -mittel theoretisch zu reden, wurde entschlossen, realistische Unterrichtsbeispiele, innerhalb derer sich diese Barrieren deutlich zeigen, zu verwenden. Teil der

Unterrichtsbeispiele sind im Enzelnen wiederzugeben, um den Zuhörern den Gesamtüberblick zu ermöglichen, aus dem diese Beispiele entnommen wurden. Kern dieses Vortrags sind schriftliche Arbeiten von Studenten, in denen sie ihre Barriere zeigen.

Utilización de la sugestión para armonizar con las barreras.

Esta presentación fue dada en la conferencia de SALT en Ft. Collins, Colorado. En vez de hablar acerca de las barreras y de los métodos de sugestión teoricamente, yo he decidido dar ejemplos actuales del salón de clase donde las barreras fueron demostradas. Partes de las lecciones fueron reportadas en detaile para darle a la audiencia una perspectiva del contexto de donde se tomaron los ejemplos. La esencia de esta presentación es el trabajo escrito por los estudiantes en el cual ellos revelan sus barreras.

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A Suggestopedic Study in Second Language Acquisition Using Hispanic Non-English Speaking Adult Learners

Yolanda L. Garcia
Houston, Texas

Abstract. This study examined the effectiveness of a Suggestopedia-like approach in second language acquisition with Hispanic non-English speaking adult learners.

With the proximity of Mexico to the US, Texas has found itself with a great influx of immigrants. These immigrants have families who speak little or no English and are in dire need of communicative skills. As a result, the educational system is confronted with a great need to meet the linguistic demands of its non-English speaking students. Learners must become proficient in the major language as quickly as possible in order to become part of a productive sector in the American mainstream.

The use of Suggestopedia in a linguistic environment proposes to alleviate these linguistic demands. Suggestopedia indicates that language learning can be accomplished quickly and efficiently. Therefore, in order to closely examine the benefits of Suggestopedia in a second language learning situation, this study was conducted:

1. To determine the practicality of a Suggestopedic-like method with second language adult Hispanic learners,
2. To test the feasibility of a Suggestopedia-like technique with a large class size,
3. To determine the effects of condensing the Suggestopedic methodology into one-hour session, and
4. To examine whether learning acceleration was possible with even the extreme constraints of Numbers 3 and 3.

Description of the Population

In order to determine the best locale within Dallas to conduct this study, a census report was secured from the Bureau of Vital Statistics, Dallas County Office. The census report indicated that Dallas has a large Hispanic population; however, the concentration of Hispanics is not limited to one geographic area. Nevertheless, there is a large population of Hispanics which resides in the southwest portion (Oak Cliff area) of the city. This area became the site for the study.

The sample of students who had no speaking ability in the English language was selected from a large local Hispanic Catholic Church parish, which had indicated an interest in this type of educational study. A classroom at a Catholic Church became the site for this study with a total of 80 subjects. The assignment of the classroom was determined by the parish priest, who deemed the closeness of the classroom to the parking area more feasible.

Although a total of 104 persons indicated interest in this study and 104 were interviewed, six were disqualified because of their linguistic abilities in English. Of the remaining 96 students, only the first 80 students were accepted. The total number of 80 was determined by the seating capacity of the classroom. Although Lozanov (1978) indicated a small class size as prerequisite for maximum efficiency, in order to address one of the questions of this study, a larger number was used: the control group and the experimental group each contained a total of 40 students.

The subjects were a combination of undocumented and documented Mexicans. Documented refers to those Mexican citizens who are residing in the US with legal documentation, while undocumented refers to those Mexicans who are in the US without proper residential or work permits. The average age for the subjects was 34.14, with an average of 4.8 years or schooling in Mexico. These subjects have lived an average of 7.5 years in the Dallas area and 99.8% watch and listen only to the local Spanish-speaking broadcasting television and radio stations.

The Study

The study was conducted during an eight-week period, during March and April, 1983. There were two evening sessions per week. The Bilingual Syntax Measure 11 was used as a pretest and posttest. This was administered by two qualified examiners. The 80 subjects divided by themselves into two groups: an experimental and a control group, with one full hour for each lesson. To each participant was described the procedure for both the control and the experimental class. Upon completion of the pretest, each participant verbally chose which class they preferred; the 6:30 control class or the 7:30 experimental class. (No effort was made to have an equal number of males or females in each class group.)

The approach utilized in this study is a Suggestopedic-like approach. It is not the true method as described by Lozanov but rather contains some of the major elements of Suggestopedia.

Both the control and experimental groups used the same textbook, Lado English Series, Book I. The control group was taught in a traditional second language classroom fashion, with a limited amount of homework assigned, approximately 10 to 15 minutes in duration. The experimental group, on the other hand, was conducted according to the Suggestopedic methodology, incorporating a preliminary phase, presentation phase and the practice phase. This group was assigned no homework and the entire session was condensed to fit into a 60-minute lesson.

The preliminary phase included a few minutes of the relaxation exercises as well as positive suggestions to succeed. This phase was conducted in Spanish for the first two weeks. During the suggestive positive phase, the students were given supportive reinforcement as well as several minutes of mind-calming exercises and breathing stimulation.

The first phase was followed by the presentation of new material in what Lozanov called the presentation phase. During this phase, new material was introduced in interesting and novel ways. This phase was divided into two sections, the active and the passive portions. During the active phase, the instructor was active, not the students. For instance, the instructor varied the vocal tone presentation in interesting ways, talking in a normal tone of voice at times and shouting or whispering at others. The use of gestures and pantomimes varied the presentation from a slow suggestive level, going along point by point emphasizing different things, to speaking wildly.

The active phase was followed by the passive phase where the students listened to a repetition of the lesson in a mild, yet authoritative tone of voice. An additional feature at this point was the incorporation of music at the same volume level as the instructor's vocal presentation.

A practice phase, where students put into use the material that had heard, was implemented at the following class session. Suggestopedia admonishes that the practice phase be conducted the day after the actual presentation. During the practice phase, the students made up dialogues using the vocabulary learned during the presentation phase. Among the more interesting student presentations was the dramatization of job interviews, grocery store shopping, pretending to be lost in the city and asking for medical information.

No examinations to determine progress, other than the pretest and the posttest, were administered during the eight-week period either to the control group or the experimental group. Therefore, student's progress was determined by the gains made between the pretest and the posttest.

Results

Because of the large number of students involved in this study, only eight subjects from each group were randomly selected for statistical purposes. The control group was pretested on the Bilingual Syntax Measure II and had a mean score of 9 and posttested with a mean of 21 on the same measure, while the experimental group pretested with a mean of 15 and posttested with a mean of 31. Table 1 indicates each of the randomly selected subjects' improvement on the measurement after the eight-week study. The t- test had a non-significant value of 1.4 with a level of significance at .15. The result might have been significant if data from all the students (40 + 40) had been used.

Table 1

Pretest and posttest scores of the control and experimental groups on the Bilingual Syntax Measure

Control Group			Experimental Group		
Subject	Pretest	Posttest	Subject	Pretest	Posttest
1	1	6N	1	2	6N
2	1	2	2	3	6N
3	1	2	3	3	6N
4	1	2	4	3	6N
5	1	2	5	1	2
6	2	4	6	1	1
7	1	1	7	1	2
8	1	2	8	1	2
Mean:	1.125	2.625	Mean:	1.8	3.8

Another interesting result was the experimental group's fewer absences. The control group had a mean of 1.25 absences while the experimental group had a mean of .5125.

Discussion

As evidenced by the tabled results, Suggestopedia produced more successful results for the non-English speaking experimental subjects. Observations reflected that the relaxation and the practice portion of the experimental group's lesson were thoroughly enjoyed by the group. At the end of the experimental group's lesson, the students would linger outside the classroom or in the parking lot visiting and experiencing their new English vocabulary.

One of the most interesting and visible outcomes demonstrated by the experimental group was the building of self-esteem. This was quite evident in each lesson. At the end of each class session, the students were presented with a list of new words they had learned from the lesson that evening. The pride each student demonstrated at their individual accomplishments was remarkable.

The limitations of the physical classroom, the hard student desks, the class size, the short period of time for the study and the one-hour class session may have been factors in diminishing the great successes and gains that Lozanov claims are possible with Suggestopedia. Nonetheless, these students exhibited pride in their linguistic successes and made remarkable gains as a result of this Suggestopedic-like approach.

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Une étude suggestopédique dans l'acquisition d'une deuxiéme langue utilisant des débutants adultes hispaniques ne parlant pas Anglais.

Cette étude examine l'efficacité d'une approche similaire à la Suggestopédie dans l'acquisition d'une deuxiéme langue avec des débutants adultes hispaniques ne parlant pas anglais.

Eine suggestopädische Forschungsarbeit über Zweitsprachengewinn bei erwachsenen Spaniern, die nicht Englisch sprechen.

Diese Forschungsarbeit untersucht die Wirksamkeit einer der Suggestopädie nahestehenden Methode für Zweitsprachengewinn bei erwachsenen Spaniern, die nicht englisch sprechen.

Un estudio sugestopédico de aprendizaje de un segundo idioma, usando un grupo de adultos, de origen hispánico y sin conocimiento del inglés.

Este estudio examina la eficiencia del método sugestopédico en la enseñanza de un segundo idioma a adultos de origen hispánico y sin conocimiento del inglés.

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Convenient Techniques for Classroom Management

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Abstract. Interactive learning may be far more effective than the conventional, but most teachers are deterred from its use because it is too easy for them to lose focus, germaneness and control, especially in large classes. This paper presents three simple techniques, adaptable to any classroom procedure, which allow teachers to move into, through and out of highly interactive procedures with tighter focus, control and germaneness than is usually found even in conventional lectures.

Many teachers are reluctant to make their classrooms actively participatory, despite the value of peer feedback and stimulus in learning, for some of the following reasons:

prospect of disorder;
loss of focus and germaneness in student discussions as students tend to stray quickly off the topic;
large size of most classes;
lack of a positive model experience which the teacher can imitate, for engaging highly participatory procedures;
lack of simple, specific, easy, convenient methods which make it easy for the teacher to engage, conduct, and disengage from an actively participatory learning experience.

Simple methods cited in this paper eliminate disorder and may in fact be used to create higher, more positive order in the classroom; sustain and intensify germaneness; work well even with hundreds of students in the classroom, in the instance of two of these three simple methods; are easily repeated, imitated, varied, expanded or added to other techniques and procedures. And those who have taught using this paper's "Waterglass Technique," find its use far easier than any other method or approach in their experience, even easier than lecturing because of the higher continuing interest of the students or participant members. Furthermore, the focus can be kept, where desired, entirely in the context of schoolbook and of concrete classroom or lab observation.

Why active, interactive, participatory learning in the first place? Hundreds of reasons have been cited in the literature and in professional education courses, but here we will observe only three:

1. Diverse studies, at different times and in different disciplines, consistently demonstrate that feedback (largely feedback from one's own spontaneous activities) is not only essential to effective learning but even to brain growth and development per se (Montessori, 1964; Moore, 1967,1969; Ramon y Cajal, 1920).

2. It has long been widely accepted that learning is not mastered by the student, much less retained for useful lengths of time, until he/she expresses or articulates it himself/herself.

3. Beyond that, we have observed in discussions (Wenger, 1979, 1980a&b) of the Principle of Description that not only does the act of describing a perception profoundly develop and add to that perception, a strong case can be made for converting schools as such into "articulariae" (Wenger, 1980b).

"To learn something, teach it" is another, perhaps more familiar reflection of these observations.

Why haven't most highly participatory methods worked? Besides the five reasons cited above, usually there is not a strong enough supporting or unifying context. Such context as exists, breaks up in the discontinuities of shifting from one speaker to another to yet another. As in basic information science, the smoother the medium through which information is transmitted, the more information can be readily transmitted through it (Wenger, 1976). For example, to shift from standard lecture to some form of "each one research and teach a chunk," for example, in information-science terms is like shifting from writing in a bed of sand to trying to scrawl messages in a bed of loose gravel: The message is lost in all the loose pieces. Each of the three methods presented below strengthens context or establishes a strong supporting context, eliminating discontinuities, and is equivalent to writing in very fine sand indeed, or better.

The Simple Germaneness Challenge Technique

To be able to move freely from lecture or instruction, to plenary discussion, to small-group and dyadic discussion and back without a lot of lost motion and time, even through situations where you have everyone talking at once, simply requires that the teacher set up a special signal other than his or her own voice. Obtain agreement on the signal, make certain that all understand it, condition its response. Perhaps the simplest signal system is the "germaneness challenge." This germaneness challenge signal supports any discourse or discussion format at what is usually its weakest link: as students get hotly into the discussion, they wander from the topic.

Use a simple, visual or auditory signal to alert the speaker or speakers to the realization that they appear to be straying from the topic. In his college-teaching days, the writer found it most convenient and natural to simply make this signal from creating a triangle from thumbs and forefingers, a distinctive and unmistakable signal that could be used on the spot without having to hunt around for some other device or a signal card.

When presented with this germaneness challenge, whoever is speaking must immediately either demonstrate the germaneness of his/her remarks, return to the point, or yield the floor.

The teacher may be the only one empowered to challenge germaneness, or he/she may experiment with allowing anyone in the class also to challenge germaneness. Usually it is appropriate to begin with the teacher only, then as momentum and context and responsibility build over some hours, allow classmates also to begin challenging germaneness.

Not only will both formal, structured discussions and informal exchanges become much swifter and more effective with consistent use of this simple germaneness challenge technique, students will become far more attentive to content; and will themselves rapidly develop a sense of germaneness, which must in turn aid much else in the teaching/learning process!

The Waterglass Technique

When everyone is talking at once, in interactive small-group or dyadic format, the instructor needs to guide by means of a signal which will be sensed immediately and effortlessly even when everyone's attention and eyes are elsewhere. Make the signal itself agreeable and pleasant, at least not harsh or strident, to make or keep the classroom situation itself pleasant. The signal should be swift, so that whatever learning structure is being pursued can itself move swiftly and not become lost in mechanics or logistics. And the signal should be simple: a 1 or 2 or 3 value code easily understood and responded to, and on which prior agreement can be swiftly and easily reached and enforced.

The name of this "Waterglass Technique" makes it pretty obvious what we recommend for this signal. While flicking the light switch or flashing a pink flashbulb might meet some of the above criteria, we prefer the agreeable chime of a waterglass, for the above reasons and because it is freely available everywhere. No special preparations or big deal are needed to acquire a suitable waterglass and spoon or other simple striker. All the instructor need prepare are the intended steps of the discussion process, brainstorm, mutual drill, simulation game, observation-exchange, description-exchange or other active/interactive structure itself. This is the simple "Waterglass Code" we use and usually recommend:

> A single "bing" means a half-minute notice. This single bing tells students that they should continue doing what they are presently doing, but should be ready a half-minute later to stop talking and hear the next step of direction.
>
> Three or more "bings" mean that all students/participants instantly stop talking, not just in mid-sentence but in mid-word. They stay with and in the continuing experience itself, while the abrupt silence allows the next instruction to be cleanly heard. Thus, an exercise can move swiftly by a succession of steps without real interruption, from simple beginnings which all students can get into easily, to high orders of power and complexity, if that is what the teacher wishes.

Sometimes it helps for the teacher to quietly say, simultaneously with the single bing, half-minute notice, "Continue--half-minute notice, keep going for a half-minute longer" or equivalent words to that effect. Even though said quietly in a roomful of excited voices, that message is somehow heard while accompanying the "bing" and has the desired reminder effect.

While it is rare to actually get the mid-word stoppage in an excited group, publicly aiming for that usually enables the teacher to get the desired voice-pause in mid-sentence. Only rarely do stragglers go on past a sentence and these are easily and gently reminded and brought into line without ado so that the experience can move forward uninterrupted.

Between this "Waterglass Technique" and the "Germaneness Challenge," teachers can now afford to let their students get active and excited in some form of discussion procedure, yet be able to move even the most excited classroom instantly forward toward the learning-goal over however involved a route.

One of the happiest advantages of the "Waterglass Technique," moving an experience forward in a sequence of discrete steps directed easily by the teacher in the vocal pauses induced by the chiming of the waterglass, is that an interactive procedure can begin with the very simplest steps which enables even the most laggardly student to get into the action. Then as the experience builds context, step-by-step the teacher can lead into more complex, higher-order functions and momentum until very high-order and profound learning experiences are created.

Even a simple mutual drill in multiplication tables or other arithmetic function can be built into pretty high-order mathematical discoveries if the teacher is sufficiently specific and clear in his/her step-by-step instructions through this "Waterglass Technique." Students can enrich each other's observations of phenomena exemplifying and pointing toward some as-yet-unvoiced scientific law, deriving that law in the most meaningful and rewarding way. Literature classes and history and social studies can range as far, immediately, into various human effects as the teacher might hope to go. Learning can be meaningful, immediate and unforgettable.

The Laser Technique

This technique is not as easy as the above two techniques, at least for some teachers as will be apparent. Also, where the above techniques can be used on large classes, even with hundreds of students at a time, the Laser Technique can be used effectively only with class sizes between 8 and 35 members. Yet where the Laser Technique can be used it creates a remarkably intense, well-focused and highly involving learning experience.

Actually, the Laser Technique is an advanced version of the Germaneness Challenge technique described above. The point of difficulty for some teachers, rides with how keen a listener the teacher is. If the teacher can truly hear what the student is actually saying, and immediately responds appropriately as below instead of merely hearing what he or she expects the student to be saying, "Laser" can quickly focus and build the classroom into brilliant and exhilarating levels of performance.

This is "Laser": use an informal symposium-like format, centered on some arguable, controversial topic or question. Assign and get a response, a reasoned statement of position, from every student--if need be, a forced response so that every student has established a stake in the subsequent discussion. Such responses can be done on the spot, but usually it is best to assign each student to prepare the day before, a closely-reasoned one-page position-paper or brief on the issue. Once the session begins, each student in rapid-fire order has to state his/her position within a very brief time. (This tightly-enforced time can be set for anything between 30 seconds and two minutes, depending on the time available, the number of students and the kind of statement sought by the teacher. An automatic timer removes onus from the teacher, but conventional time-keeping will do. Whatever the length, the same interval is accorded each student with tight enforcement against overruns.)

Within 15 to 30 seconds after each student's statement, each time the teacher rephrases and summarily repeats back supportingly that student's expressed position, especially reinforcing any apparently original ideas. If the teacher is able to accomplish this rephrase/supportive restatement for each student, this pumps the energy of the class really high during the rapid-fire presentations stage, and the cumulative effect becomes truly electrifying.

After this rapid-fire succession of position statements and reinforcements, the floor is opened to interactive discussion, regulated by the previously established Germaneness Challenge. With every student having a reinforced stake in the discussion, the discussion is lively, and with the germaneness rule in effect, it is also productive.

This method is called the Laser Technique because the steps before the floor is opened to discussion, pump up he energy state or charge of the class similar to pumping up the energy state of a ruby before it discharges a coherent laser beam. With the germaneness rule or other simple signal system to guide the process, the discharge is both energetic and coherent for the class, too.

A more demanding variant of "Laser" during the initial pumping-up stage of rapid-fire presentation, is to have students instructed and able to truly hear and take note of each other's positions for supportive/critical/argumentative response during the following discussion stage. Where this can be done successfully, not only the specific learning experience is rewarding and intense, but students become far abler to hear what one another is saying, and what their teachers are saying, with all that this means for improving most of their subsequent learning wherever and from whomever.

These have been three of many possible simple techniques to sharply improve classroom learning performance. The first two, the Germaneness Challenge and the Waterglass Technique, are trivially easy for any teacher: they require little more of the instructor than simple consistency in use of the agreed-on established code. These first two methods visibly demonstrate how easily a teacher or school can positively and profoundly transform the teaching/learning experience. The third method, "Laser Technique," especially in its variant, is more challenging to implement but both students and instructor find its experienced results to be intensely rewarding and exhilarating (Wenger, 1984a & b).

Concluding Note

It is remarkably easy within any classroom to powerfully and positively transform teaching and learning. These three methods are among some 350 methods catalogued in a taxonomy of such methods recently presented to the Society for Accelerative Learning and Teaching (Wenger, 1983). Both the "Laser Technique" and the Germaneness Challenge technique have been around for 16 years and the Waterglass Technique for 6 years (and counterparts may have existed for far longer), without serious testing and implementation by schools to date. What haven't more educators used these and other techniques to improve teaching and learning? Let us look at a basic structural problem in today's systems and institutions of education.

Predict the outcome where there is a large-scale public enterprise: lack of agreement on the goals of that enterprise, no connection between how well people are paid and how well even such goals as are agreed on are fulfilled, some stakes of wealth and enormous stakes of power--stir and mix over varying degrees of heat for some years--what stew has to result?

Conversely, change the ingredients and you change the resulting stew. The most important such ingredient might be to reward both teachers and administrators according to how well their students advance across a broad spectrum of measures of gains in proficiency. If some quality not included is protested as germane to such evaluation, the protestor must be supported and encouraged to find or create an instrument test for measuring that quality, which then is included in the battery of measures for that person's students. Some standardized tests should also be used for comparison. Some measurements should be performed in-house as is now done; a third to half of such measurements for incentive rewards should be contracted out. Such an incentive system, however slight its apparent present political possibilities of implementation, could almost instantly transform institutional education for the better, cost much less than is now usually spent on very slight changes in educational approach, and could immediately improve teaching and learning to a far greater degree than anything shown here.

That proposal is not "merit pay" in the usual sense because such merit pay seldom addresses the needs and gains of the student directly and, we believe, that is part of the problem. The reason schools exist in the first place, is mostly for the sake of the advancement in well-being of the student, but what actually happens is that the student is too often the very last consideration weighed in the choices and decisions made by schools. After all, schools are paid to hold students in classrooms, but are not paid according to how well students learn or gain. This is in a society where, by and large, "you get what you pay for."

Any large-scale problem may be usefully analyzed in terms of the incentives now acting upon those people whose behavior could affect that problem, especially any long lasting problem. Modifying those incentives is usually a key to solving that problem (Wenger, 1984c). In the near future, though, incentives to schools and within schools are not very likely to change for the better, so where does that leave us?

Ideally, a dedicated professional educator would seek out and use the best methods on his or her own, regardless of career and monetary considerations. Many do, and most of them may be among the readers of this Journal for obvious reasons. Perhaps such transparently useful and easy-to-implement methods as the above, if not more profound methods cited in the Taxonomy (Wenger, 1983), will eventually be picked up and used by enough individual teachers to make significant improvements overall in American education, and perhaps not. But in today's real world, rather strong material incentives are required before such changes can happen soon on any great scale. Meanwhile, the reader is free to decide and work on his or her own, for many such transformative methods do exist and are available. Some, like those of this paper now immediately in the reader's hands, are simple, easy and immediate to implement and transparently useful for competent teachers.

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Techniques pratiques pour diriger une classe.

L'apprentissage interactif (à action conjuguée) peut être beaucoup plus efficace que la méthode conventionnelle (classique), mais la plupart des professeurs sont découragés par son utilisation parce qu'il leur est trop facile de perdre l'attention, l'à-propos et le contrôle, surtout dans de larges classes. Ce document présente trois techniques simples, adaptables à n'importe quelle méthode de classe, laquelle permet aux professeurs de s'y intégrer à travers et en dehors des procédés interactifs avec mise au point, contrôle et à-propos plus rigoureux (serrés) que ce qui est habituellement trouvé même dans des conférences conventionnelles.

Geeignete Verfahren für die Leitung des Klassenunterrichts.

Interaktives Lernen könnte viel effektiver als das traditionelle sein, aber die meisten Lehrer werden vom Gebrauch davon zurückgehalten, weil es leicht geschieht, daß sie, besonders in großen Klassen, den Brennpunkt, die Zugehörigkeit und die Kontrolle verlieren. Diese Arbeit gibt drei einfache Verfahren, die für irgendein Klassenzimmer angemessen sind, und die dem Lehrer erlauben, in hochinteraktive Vorgänge hinein, durch sie und aus ihnen heraus zu agieren. Das alles geschieht, indem man einen

genaureren Brennpunkt, genauere Kontrolle und Zugehörigkeit findet, als selbst in traditionellen Vorträgen.

Técnicas convenientes para el manejo del salón de clase.

El aprendizaje interactivo es mucho más efectivo que el método convencional de aprendizaje; pero la mayoría de los maestros prefieren no usarlo. Parte del problema es que el maestro siente que es fácil perder el control, enfoque y relevancia si lo usara, especialmente en una clase grande.

Este artículo presenta tres métodos sencillos y aplicables a cualquier proceso de aprendizaje; además permite al maestro usar el método interactivo con mayor control, enfoque y relevancia del que se ve en las clases convencionales.

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Suggestopedia in Finland*

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Abstract. The author, as a college professor, talks enthusiastically about the introduction of suggestopedia to Finland, and current developments and research. Suggestopedia is seen as particularly well suited to the typical Finnish temperament.

Suggestopedia is precisely what we Finns need. Let me first tell you why. Secondly, I will deal with some observations concerning suggestopedic experiments in teaching. The third aspect of the lecture is going to be the future of suggestopedia in Finland from a personal point of view.

Knowledge has always been power in Finland. When giving a lecture on Finnish educational structures to a group of foreign educationists, I mentioned "If you want to beat someone in our country, you can only do it by your superior skill or knowledge, not by your higher income or greater property." Even in Finnish folklore, song was magic, magic was knowledge, and knowledge was power. The old and steadfast Väinämöinen, the central figure in the Kalevala, our national epic, could overcome his enemies by his superior wisdom and enchant his friends with his song. He charmed birds, beasts, trees and grass with his music and lulled his enemies to sleep.

Here we have similarities to two important means in suggestopedia: the influences of authority and music, authority in a positive sense, as the placebo of a wise man who knows. No wonder suggestopedia has found no serious resistance or suspicion when gaining ground in Finland. We are not too far away from our roots and traditions.

Education, learning, has always been appreciated in our country, academic education even too much at times, but it seems that the development is going in a healthier direction nowadays. Schools in general are, however, likely to remain connected with the idea of privilege in the first place, not with that of unpleasant duty.

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*Paper presented in Leningrad and Kiev, February 1984.

The Finnish mind is global and thus has a good basis for suggestopedia. Because of their geography and language, the Finns have a many-sided culture. To keep contact with other countries, we have to learn several languages and become well acquainted with the cultures of other nations. The Finns have a strong desire for universality of outlook and general knowledge, which they regard as more important than material things. The mental range of the Finns is wider than specialized and analytical, which is reflected in the curriculum of any type of school in Finland. Concentration on only a few subjects has been postponed until tertiary education, and even that is changing now.

In the lives of the old Finns interested in studying, e.g., in the numerous Folk High Schools, the weaving shuttle and the carving chisel alternated with the pen and the book. The old wisdom of using head and hands should have been remembered by our school reformers but was not. In Finland the secondary schools, both junior and senior, have always emphasized the intellectual development of children, and they still do. The most important task of the comprehensive school is said to be to offer material and stimuli for the development of the pupil's whole personality and its various aspects: human biology, ethical and social objectives, manual work and practical skills, but right from the beginning, the new school has been overloaded with theoretical studies. There is very little time for manual work and practical skills. The objectives are high and the facts prevail once again. Perhaps by using suggestopedic methods in any school subject at any level in any type of school (but not all the time), it is possible to reach the goals that have so far remained a dead letter and yet even raise the intellectual ones. This, however, is not as important as looking after the affective side of man, an area badly neglected in our days. As this drawback has been realized and recognized, there is hope.

Suggestopedia improves personality. Those traits of the Finnish character that, in my opinion, consume a great deal of unnecessary energy and should be eliminated or sublimated are: shyness, which must not be confused with modesty, the Finns are proud; tenseness; envy; inability to cooperate in ordinary circumstances. It would be easy to claim that these features are common to all mankind, but they are typical of the Finns and very conspicuous. We are self-centered and take ourselves too seriously. We are emotional, but often unable to express our feelings. We feel insecure in other people's company and are very afraid of making mistakes and being ridiculed. If one of us succeeds in life, we easily do our best to drag him or her down from the undeserved pedestal, verbally anyway. That is where the tongue works, if not otherwise. One Finnish proverb says, "One word is better than nine," and another, "When you talk to people, you'd better keep your mouth shut" (Kun sinä puhut ihmisten kanssa, niin pidä sinä suusi kiinni).

Suggestopedia is able to provide the Finns with excellent therapy. In this system, it is possible to get a pleasant new identity. The person's real self is concealed and sheltered. You are no longer a shy Finn who does not talk, but a representative of another nation in whose language you are liberated enough to speak "fluently" even if you are a beginner. The teacher gives your new ego confidence and encouragement. If you make a mistake, there is nothing to worry about, nothing to be ashamed of. It is not you who made the mistake but the person whose role you are playing, a respectable and likeable person. Whatever you say is greeted with applause and worthy of being repeated by the teacher in an enthusiastic tone. You discover you are a delightful half-genius, able to learn fast, think quickly and properly, have fun while learning, enjoy the company of your fellow students, cooperate with them on an equal basis and share in the dynamic, cohesive atmosphere of a well-integrated group, which is more than the sum of its members.

At least in language study, role playing is more systematic in suggestopedia than in any other method I know of. Each individual and group develops while the story goes on. Positive suggestions are given from the first minute on. According to Fanny Saféris, author of Une revolution dans l'art d'apprendre, the first dialogue in the English course at the Institute of Suggestology in Sofia is called A Good Beginning is Half the Battle. Those are the words the dialogue ends with, put in the mouth of Lucy Lucas, the film producer from Liverpool, as an answer to Alan Black, an elegant actor from Canada, who states, "So now, we begin our work together." And beautifully they work together, too, the great artist, the great mathematician, the great journalist, etc., after being "delighted" to meet each other.

In a relaxed state of mind they listen to the teacher reading new dialogues to them or the classical music played, or both. During the post-session phase, they actively use in simulated situations what they have learned. Finns, too, are quite able to do it spontaneously without inhibitions. In a way, that is not surprising. We are said to be theatre-loving people. Suggestopedia gives us a chance to express our feelings, desires and wishes vicariously. No personal revelation is necessary. No questions concerning one's real identity are even allowed during the whole course, according to Lozanov.

It may happen as it did to the "Alex" of the first suggestopedic French course in Finland in 1980. He told us he got so attached to his role identity that he liked it at the end of the course much better than his own real self (as Risto), that one definitely charming, too.

Finland is ripe for suggestopedia. We were the first people in the world to found a national suggestopedic society (Suggestopedia- yhdistys) in June 1982. Information concerning this new type of teaching reached us late, actually only after two chief inspectors of our National Board of General Education, Kalevi Pohjala and Pirkko Ruotsalainen, visited the Institute of Suggestology in Sofia in November 1977 and published their well-known report on suggestopedia a few months later. In June 1978, the Summer University of Helsinki and the National Board of General Education arranged a couple of days' seminar dealing with the suggestopedic approaches of teaching used in Bulgaria, the USSR and Sweden. Representatives from each of these countries gave lectures there, the Russian teachers also a demonstration of the intensive method in practice. The Bulgarian lecturer was Professor Lozanov himself. Since that seminar, our main concern has been where to get enough information and material.

According to Lozanov, the order in which the material is introduced is very important. Each element in the ritualistic system is carefully experimented with in laboratory conditions at the Institute of Suggestology. The results Lozanov and his colleagues have reached through suggestopedia are really admirable. The learning experience has become fast, effective, relaxing, creative and enjoyable. Age is no problem. Traditional conceptions of the weakened learning capacity of adults have grown questionable in the light of the new system, which has brought about a "gold rush" in various parts of the world. Lozanov emphasizes the importance of using his approach correctly and does not approve of any combination of various methods with suggestopedia.

As Bulgaria decided to have their suggestopedic system patented in 1980 for reasons we do not know and cannot understand (science is supposed to be free), our first-hand source is blocked and receiving proper training has become difficult. There is hardly one person in our country who has attended a full-length training course in Bulgaria. The hunger for knowledge is great and increasing. We simply have to put the bits and pieces together that we get from books, articles, videotaped lessons, international conferences and people who experiment with various elements of the system. Ultimately we have to take risks and develop a variation of our own. However, the risks must be based on plenty of information, not only on reading a few interesting articles and a book on SuperLearning, attending a couple of lectures and being enthusiastic about it all. Much more is needed.

Fortunately we are occasionally guided by Prof. Gabriel Racle from Canada, and thus prevented from going completely astray. Another expert who has recently become popular in Finland and is interested in visiting us often is Prof. Charles Schmid from the LIND Institute of San Francisco (Learning in New Dimensions). We have some cooperation with Sweden, but as to teacher training, their problems are about the same as ours. A few of us have had the opportunity of becoming acquainted with the intensive method and its connections with the suggestopedic system in the USSR to some extent. In this area, we would very much like to increase cooperation and cultural exchange.

Finnish summer universities are quite active in arranging courses where suggestopedia is involved in various ways. There have been series of lectures only, or language courses only, or combinations of both theory and practice. I am a lecturer myself and those courses I have given in the Faculty of Education, University of Oulu, during the ordinary academic year and the summer universities connected with our university have been optional courses in a program leading to a degree in education.

When lecturing on suggestopedia, particularly if there are sufficient hours available, I find it interesting to bring out what other scientists besides Lozanov have to say about the functioning of the brain and what recent discoveries have been made. Most of them encourage the use of the suggestopedic system though actually have nothing to do with it. It is good to have support from other sources to strengthen the theory.

In the East and West, brain specialists have come to the conclusion that a human being uses a small fraction of his potential in his lifetime. Prof. Lozanov's estimate is about 10 percent, Prof. Banchtchikov's is 4, and in an interview, Tony Buzan mentioned only one percent or less. Even if the most optimistic estimates are true (they range up to 17 percent, as far as I have heard), the vast majority of the reserves remain latent. There is no reason why they shouldn't be activated in good ways for good purposes: to overcome the anti-suggestive, emotional and rational barriers that limit mental capacities, to produce a feeling of confidence, to make learning easier and more pleasant, the state of mind and body healthier, etc. The system, when carried out carefully and calmly, improves personality, memory, intellect and emotions. In Finland, we believe in this.

The description of the Finnish character I gave you is true, but we can be unanimous about some valuable matters. Of course, everybody has not heard of suggestopedia yet, and some of those who have are a little doubtful still, but are willing to learn more about it. A few resist, but it would be unnatural if there were no exceptions.

The Finnish mass media, our TV, radio, newspapers and magazines, have treated suggestopedia and the suggestopedic experiments made in our country and elsewhere both kindly and objectively. The two Finnish teachers of French whom Prof. Racle trained first in Helsinki in 1980, Hilkka Asanti and Leena Eklund, now have nearly four years' valuable experience behind them. Their work in adult education has received a great deal of positive attention. The results of their experiments were reported and published in 1983. What was claimed about suggestopedia proved valid. In six and one half weeks the students learned about the same as others in three years and enjoyed the course very much. The dropping-out rate was considerably smaller than that of the control groups and would have been smaller still if one of the experimental groups had not been filmed by the Finnish TV.

There are suggestopedic language courses for adults going on all over the country now. They are very popular and filled up quickly, but the board members of our suggestopedic society are aware of the fact that there are weeds in this area also. The name of suggestopedia has advertising value for all sorts of enterprisers, even for computer dealers. Parasites grow around every good idea.

Suggestopedic teaching methods have found their way into ordinary schools as well. At least some elements of suggestopedia are being used on all school levels but not very extensively yet. Of the artistic means used in suggestopedia, music is the most remarkable one and in our country, the most popular one also. In Bulgaria, classical music, an essential part of the system, is meticulously chosen for the purpose. When in Helsinki in 1978, Lozanov mentioned that it did not matter whether the student liked the type of music played or not, the effect was the same. He did not approve of pop music at all, the explanation being that it activates the body, not the mind. "In that case," said one of my students, "Lozanov does not understand pop music at all. Some of it is very beautiful and calming."

Lozanov has written that music should never be used alone, but always integrated with other means of suggestopedia. If it is used for relaxation only, it gives the students the negative suggestion that learning is tiring and periods of rest are necessary and justified. This remark does not exclude the possibility that we use music as help when teaching by other methods and, in general, adopt valuable ideas from suggestopedia to let them enrich our more traditional approach, but we must not call our own private combinations suggestopedia, out of respect toward Lozanov and his work.

The nearest place to me where suggestopedia has been experimented with in ordinary classroom teaching is Kiiminki, slightly over 20 kilometers east of Oulu. Mrs. Marja-Leena Oikarinen has used it when teaching English and music in Kiiminki junior and senior secondary schools. So far the experiments have been modest but the results are encouraging. From the beginning of the next school year, we wish to start scientific experiments there. Some of Marja-Leena's observations have already been of great value to me. I pick out some concrete examples.

"You have to be very careful with the choice of music," Marja-Leena says. Even though Vivaldi's "Four Seasons" is in Lozanov's list of recommended music, the juveniles find it too restless. The volume must not be too loud either, particularly during the concert session. During the periods of activation or elaboration, infantilization has taken place surprisingly well even among the pupils at the most difficult age. For instance, the teacher felt a little apprehensive of introducing the ball to activate a dialogue. On the morning when she intended to use it the first time in class, she could not find any of her children's balls at home. When the time came, she told the class that a ball was supposed to be used at that stage but she did not have one. The class suggested that they should use a rubber eraser instead. So they looked for the biggest eraser they could find in their pencil cases and managed beautifully with that. Someone got a black eye though, as the rubber did not land in her hands.

To the weakest pupil in the class, a shy girl who never opened her mouth during her English lessons, that period was historical. When her turn came to catch the rubber, she produced her part of the dialogue without the slightest mistake. She was surprised and pleased and has tried hard ever since.

In activation, the teacher has had no trouble whatsoever. As support of memory, she has used cues on the board or transparencies or slips of paper. Nobody has found a ball, even a real one, a childish tool. On the contrary. Even those few who are unable to relax during the concert session, completely forget themselves during the activation period and become involved.

The pupils' interest in the English language has increased; their general attitude is extremely positive; they have become more active and pleasant; their mutual relations have improved outside the classroom also; their standard of performance grew better with two exceptions where it remained the same; and the teacher herself enjoys the method and believes in its efficiency in holistic education. She has seen the biggest troublemakers in the school turn cooperative and creative in a positive sense.

The means of suggestion in practice: authority, infantilization, double-planeness, intonation, rhythm, concert pseudopassiveness or concert state and deschooling or humanization, are quite acceptable to the Finnish mind. For a long time I personally had trouble with the least important of them: intonation, which is a changing phenomenon anyway and can be applied in various forms. In general, the better one gets to know these means, the clearer the logic behind them becomes. If one learns to approve of the suggestopedic way of thinking, that is something already, something valuable to be cherished and developed. The idea of authority alone makes us think how we could extend it to everything we do and everyone we are in touch with, cultivate respect and appreciation of each other without envy.

The authority or prestige of the teacher is on its way back to Finnish schools in its humanistic or suggestopedic sense and will be established on the condition that everyone's welfare is taken care of, together and cooperatively. We have also realized that suggestopedia has applicability in a wide sense in all paths of life.

As I mentioned before, Finland, to a great extent, is ripe for suggestopedia. We have started doing something about it and look forward to international exchange of ideas in this promising field of science.

* * *

Suggestopédie en Finlande.

L'auteur, comme un professeur de collège, parle avec enthousiasme de l'introduction de la Suggestopédie en Finlande, et des développements en cours et de la recherche. La suggestopédie semble être particulièrement bien adaptée avec le tempérament typique finlandais.

Suggestopädie in Finnland.

Der Autor, Hochsculprofessor, berichtet enthusiastisch über die Einführung von Suggestopädie in Finnland, und über aktuelle Entwicklungen und Untersuchungen. Man betrachtet Suggestopädie als besonders für das typische finnische Temperament geeignet.

Sugestopedia en Finlandia

El autor, en su papel de profesor, habla de manera entusiasta, del uso de sugestopedia en Finlandia, y también de los últimos avances investigaciones en el campo. La sugestopedia es vista como un método adecuado al temperamento Finés.

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Description and Results of a Field Study Using the Relaxation-Handwriting Improvement Program with Learning Disabled and Emotionally Disturbed Children

John L. Carter
and
Harold L. Russell

Abstract. This article reports the results of field testing the Handwriting Improvement Program, a kit which can be used by teachers or parents. The program emphasizes following the directions on the prerecorded relaxation tapes and copying model words and paragraphs outlined in the student workbook. The kit was evaluated in this field study with over 800 emotionally disturbed and learning disabled children. The prepackaged kit was successful in increasing psychomotor, achievement and cognitive abilities of the emotionally disturbed and learning disabled children vs. the control groups.

During the past few years, investigators have been developing a relaxation-based handwriting improvement program. The intent was to carefully develop and field test a kit which teachers or parents could use. Such a kit should be self-contained and include all directions, materials and practice exercises. Previous investigations clearly indicated that this could be done (Carter, 1983).

This is a report of the extensive field testing of The Relaxation-Handwriting Improvement Program.

In all, 80 teachers from 24 different schools representing 10 districts in four states participated in this study. The schools represented a diversity of locales: rural, small town, urban and suburban. The teachers used the kit with special education children assigned to their classes; 650 learning disabled and 79 emotionally-disturbed children comprised this sample. It is assumed that all children met their respective state criteria for admission to the special education program.

During the week prior to receiving the program, the children were administered the following tests:

Slosson Intelligence Test
Wide Range Achievement
Gray Oral Reading Test
Bender Gestalt Test
Simple Auditory Memory Test
Pretraining Handwriting Sample

The program itself lasted twelve weeks. The children were posttested the week following the termination of the program.

Program Description

The Relaxation-Handwriting Improvement Program is composed of two parts: 1) listening to and following the directions of enclosed copying pre-recorded relaxation tapes, and 2) copying model words and paragraphs in the student workbook.

The relaxation tapes have been carefully developed, refined and sequenced for maximum benefit. The first tape directs the child to tense and then to relax various muscles such as hands, shoulders, legs and jaw. This is designed to help make the children become more aware of their own muscle tensions and to learn how it feels to relax these muscles.

The second tape leads the child to only relax the muscles--to let them go limp. In this tape, the children are asked to think about the muscles and to let those muscles relax more and more.

The next four tapes present breathing and visual imagery exercises. These tapes are designed to let the children's mind and emotions relax so that they will not become as easily frustrated or irritated--so that they can control themselves more effectively. For example, in one instance while relaxed, the child is asked to imagine or think about taking a test where the correct answers flow easily. In this way, the anxiety surrounding tests may be decreased. On another occasion, the child is asked while relaxed to imagine or think about something that "bugs" or bothers or irritates him. This is designed to help him come to grips and to cope with his feelings appropriately. Each tape is approximately ten minutes long.

After the children listen to the relaxation tape, they are to complete two pages of handwriting exercises. The first page is composed of letters and words for them to trace and then copy in the space provided. The second page is a short paragraph to copy.

This should be done regularly three times each week for the 12 weeks. As with any other skill, regular practice spaced over time is essential to increasing performance abilities.

Sequence

For optimal results the following sequence is suggested.

1. Have the child copy pretraining paragraph.

2. Have the child listen to tape 1, Tense-Relax, three days a week for two weeks.
3. Immediately after listening to the tape, complete the two-page exercise. Continue this sequence for eight to ten weeks.

Suggestions for Small Group Training

1. We have found that 6-8 children are about the maximum number that can be worked with effectively. As the group becomes larger, it becomes more and more difficult to keep quiet and attentive, the distractibility increases markedly. If a particular child continues to be talkative, noisy, or disruptive, remove him/her. One child can easily ruin the required mood of the entire group. If possible, have an assistant (such as an aide) to handle less cooperative children individually.
2. Choose a time and place as free from noise and distraction as possible.
3. Try to listen to the tape at the same time and place regularly.
4. No other children should be in the room. They may tend to giggle or laugh or otherwise be distracting.
5. Closely observe the children to be sure that they know how to follow the directions and do the exercises. Occasionally it may be necessary to quietly and gently assist a particular child.
6. Have children get in a comfortable position (no touching, talking or giggling). A good position is to sit in the chair with head dropped, chin on chest with hands in lap. Forearms should be supported on thighs. Another possibility is to have the children rest their heads and arms on the desk or table.
7. If possible, slightly darken room, though not completely dark.
8. If any children appear to fall asleep while listening to a tape, do not be concerned. Our research, and that of others, suggests significant learning can take place in children while they are in a "twilight" or borderline sleep condition.
9. Immediately after listening to the relaxation tape, do the two pages of handwriting exercises.

Suggestions for Handwriting Practice

Generally, all assistance should be gentle and encouraging. You do not want to add to the frustrations and stress so be careful not to nag, criticize and add to the stress.

1. When necessary, gently remind child of correct posture and pencil grasp.
2. If child begins to grip pencil very tightly, have him put the pencil down and flop his hand back and forth "like a wet dishcloth."

3. If there are errors, have child find and correct them. One way is to say, "I see three mistakes, see if you can find them." If child cannot locate some, point to the line. If he still cannot find the error, point to the word.
4. Recognize and exclaim on any and all improvements--even small ones.
5. Each day before beginning, challenge the children to write even better than they did the day before.
6. Be sure to use the felt tip pen included. By using this, the child will not have to push so hard and he/she cannot erase.
7. Finally, have child follow directions on each page.

The teachers were responsible for using the program with small groups of four to eight children in their classes. The original intent was for the teachers to use the program for 30 minutes three times per week for 12 weeks, but individual scheduling difficulties and various pupil needs rendered this impossible. Consequently, teachers varied considerably in their frequency of practice with the program. Some worked with the program twice a week for 8, 10 or 12 weeks, while others worked with the program three times a week for 6, 8 or 10 weeks. An attempt was made to keep track of these scheduling variances, but this proved impossible. This difference in scheduling, in fact, resulted in strengthening the project. Each teacher, in following the directions, administered the program in his or her own unique manner within the constraints of his or her schedule and teaching style. Despite this wide range of variability of practice, the results of the study were highly significant.

Results

Table 1 summarizes the results of the pre, post and gains scores made by both the LD and ED groups on all dependent test measures. As a group the 650 learning disabled children showed very significant gains ($p<.001$) on all measures. These ranged from over five points IQ gain to approximately one-half year gain on both reading tests and to one-third and one-fourth of a year gain in spelling and arithmetic respectively. Using the Koppitz (1963) scoring system, errors on the Bender decreased by over 1.5 points and auditory memory increased four units. Handwriting also showed improvement on the five-point legibility scale.

The 79 emotionally-disturbed children were more than two and a half years older than the other groups. All were in secondary level programs, whereas other groups represented elementary and secondary age children. Except for spelling, the emotionally-disturbed children showed very significant gains ($p<.01$) on all measures. Spelling

Table 1

Mean of pretest, posttest and gains for learning disabled and emotionally disturbed

	Learning Disabled (LD) N=650			Emotionally Disturbed (ED) N=79		
	Pre	Post	Gains	Pre	Post	Gains
Slosson IQ	85.75	90.84	5.11**	86.90	89.69	2.79**
Wide Range Achievement						
Reading	3.83	4.29	.46**	4.37	4.83	.46**
Spelling	3.52	4.29	.37**	3.65	3.91	.26**
Arithmetic	3.62	3.87	.25**	3.83	4.21	.38**
Gray Oral Reading	2.97	3.62	.65**	3.69	4.31	.62**
Bender Gestalt	4.26	2.73	-1.53**	2.65	1.59	-1.06**
Auditory Memory	16.59	20.60	4.01**	23.05	28.97	5.92**
Handwriting Legibility	1.66	2.13	.48**	1.65	2.22	.57**
C.A.	11-4 yrs			13-11 yrs		

**p<.01

improvement was significant at the .05 level. They made their most dramatic improvement on measures of auditory memory and arithmetic. Both are measures of concentration or focused attention.

These results are consistent with those obtained in earlier investigations utilizing a matched control group and a placebo control group (Carter, 1983). Table 2 compares the gains made by 18 LD experimental, 18 no-treatment controls, and 18 placebo control children. The academic achievement tests, Reading, Spelling, Arithmetic (Wide Range Achievement Test) and Gray Oral Reading Tests are reported in years gain, while the Slosson is reported in mean IQ gains. The Bender is reported in terms of number of errors (Koppitz, 1963) and auditory memory is in length of immediate recall units. Handwriting is scored on a five-point scale of legibility developed earlier by the senior investigator.

Table 2

Mean Gains of Learning Disabled Children in Four Treatment Groups

	Current Experimental	Earlier Experimental	Placebo Control	No Treatment Control
C. A.	11.33	10.75	10.64	
Slosson IQ	5.11**	3.71**	1.56	1.06
Reading	.46**	.41**	.27*	.22*
Spelling	.37**	.32**	.19	.15
Arithmetic	.25**	.24**	.16	.21
Gray	.65**	.38**	.31*	.12
Bender	- 1.53**	1.71**	- 1.08*	- .53
Aud. Memory	4.01**	2.28**	1.41	1.18
Handwriting	.47**	.52**	.18	.22
Number of Teachers	71	9	4	4
Children	650	18	18	18

*p<.05; **p<.01

For both experimental LD children groups the results were remarkably similar. Both groups made highly significant gains (p<.01) on all dependent measures. Even the magnitude of the gains are essentially the same.

Figure 1 presents a dramatic display of an example of the improvement made in handwriting quality by LD children during the brief 8-10 week time span of using the Relaxation Handwriting Improvement Program. This handwriting improvement, as well as the other gains in achievement, have also been demonstrated to not only be maintained but to continue to improve according to our one year follow-up study (Carter, 1983).

Summary

The prepackaged relaxation kit was demonstrated to be effective in increasing cognitive, achievement and psychomotor abilities of learning disabled and emotionally disturbed children. These improvements were of such a magnitude as to be of considerable practical importance as well as being highly statistically significant. As would be expected, the areas of greatest deficit were where the children tended to show the greatest gains. It is important to note that these mean improvements were made by 801 children with 80 different teachers in 24 different schools. It seems clear that this program, if appropriately implemented, can bring about significant positive change in school performance. Finally, and perhaps of greater importance, once these improvements are made, they continue to accrue over time.

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Description et résultats d'un plan d'études utilisant le programme d'amélioration par l'écriture-relaxation avec des enfants incapables d'apprendre et perturbés émotionellement.

Cet article rapport les résultats des tests effectués sur le programme d'amélioration par l'écriture, un kit qui peu être utilisé aussi bien par des professeurs que par des parents. Le programme accentue suivant les directions indiqués sur des cassettes de relaxation de séquences pré-enregistrées et en copiant des mots modéles et des paragraphes ébauchés dans les livres scolaries de l'étudiant. Le kit pré-enpagueté apparut avoir du succès en augmentant les capacités psychomotrices, de réalisation et de connaissance des enfants perturbés émotionnellement et incapables d'apprendre.

Beschreibung und Ergebnisse einer wissenschaftlichen Forschung im Tätigkeitsbereich, die das Entspannungsprogram für die Verbesserung in der Handschrift bei Lernbehinderten und emotional gestörten Kindern anwendet.

Dieser Artikel berichtet über die Ergebnisse einer wissenschaftlichen im Tätigkeitsbereich durchgeführten Untersuchung des Programms zur Verbesserung der Handschrift, einer Sammlung von Unterrichtsmaterialien, die Lehrer und Eltern benutzen können. Das Programm legt Nachdruck auf das Befolgen von Anweisungen, die vorher auf Entspannungstonbänder aufgenommen wurden, und auf das Kopieren von Musterwörtern und -absätzen, die im Arbeitsbuch für Schüler extra gekennzeichnet sind. Die im voraus zusammengestellte Sammlung der Unterrichtsmaterialien schien die psychomotorischen und Leistung kognitiven Fähigkeiten und die Leistung von emotional gestörten und lernbehinderten Kindern zu erhöhen.

Descripción y resultados de un estudio de campo en el que se usó un programa de relajación para el mejoramiento de la escritura en niños con problemas de aprendizaje y problemas emocionales.

El articulo reporta los resultados obtenidos en un estudio de campo con el método de "mejoramiento de la escritura"; mismo que puede ser usado por maestros o padres de familia.

El programa requiere que se sigan las instrucciones de relajamiento que las grabaciones indican y que se copien las palabras y párrafos que se indican en los libros de trabajo del estudiante.

Este paquete, previamente construído, es efectivo en ayudar a niños con problemas emocionales y problemas de aprendizaje a mejorar sus habilidades psichomotoras e intelectuales.

Zoo

The zoo is a great place to go
I like the [illegible] lions Best
of all its fun to watch
them ~~to~~ eat lions roar bo.
and are scary [illegible] they get
excited and look [illegible] fierce.
Some times I am afraid of them
Sometimes 1

Zoo ☺ yeah you really tried this time!

Robert ran around roaring
like a tiger Ron told
Robert to roar some more
Ron and Robert raced
around the room Rose
heard the roaring andran
in. Ron and Robert roared
some more Roaring
belongs in

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Demonstration in Spontaneous Visual Imaging*

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Abstract. We ourselves are "information," and take on meaning, value and definition to the degree that we express, articulate and record from our own firsthand observations. As we do so, we not only draw upon more knowledge than we thought we knew, but upon the very same taproots from which sprung nearly all the contributions to human civilization and culture worth mentioning. Especially do we draw upon these wellsprings of genius, for a number of reasons, when we practice expressing, articulating and recording our necessarily firsthand observations of our own semi-unconscious, undirected, ongoing visual mental imagery which runs on in each of us at this very moment.

Who and what are you--as educators and as human beings? Certainly not just your bodies now sitting there, because every seven years, physicians tell us, all the substance of your body has cycled out and new substance cycled in. Hardly a particle remains in you of your body from seven years ago, when you were you then also....

What remains, what is precious, what is you, is the pattern, the information.

Your measure as a person, your meaning as a human being, is not the meat and substance of your body but your enduring pattern, your information, your definition.You acquire value as a person, you add meaning, to at least some extent as your information takes on definition. My information, my definition, takes on meaning as I talk with you. My information takes on definition as I express it to you.

Ostensibly I am here to present or teach you new things. In truth, I teach only myself. For these few moments of lecture I am using you as an instrument to develop my perception, to add definition to my information, to take on meaning. This was the function of schools--it's in the very name of "education." The Latin root word, "educare--to draw forth."

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Schools existed as "education" in this sense two ways:

1. Students were there as the listening instrument through which scholars and thinkers could develop their own definition, perception, meaning.
2. In return, students were sometimes served by the Socratic Method. Just as scholars were given their chance to develop their own definition through discourse, students were guided by extremely adroit questioning to discover themselves and their world, in their efforts to answer such questions through introspection and personal observation.

Socrates, Plato, other great ones knew that knowledge is in and of us and all around us. That knowledge becomes us, we take on definition and value as human beings, in large part as we articulate that knowledge into our own full consciousness, to listeners or readers, from our own ongoing firsthand observations.

What is strange about this is that you have long known this, though it just didn't seem to be very relevant to what you and your colleagues are doing in education.

What is also strange about this is that it sounds strange and philosophical to you instead of a matter-of-fact everyday reality because for so long schools have forgotten and moved away from their main purposes and strategy of being.

We take on meaning and definition in large part as we express and expose our own personal firsthand observations to feedback with listeners and/or readers. Indeed, one of the best, most immediate ways we know of to become a more potent human being is to begin making your own firsthand observations, expressing, articulating and recording those observations. As you do so, your observations, perceptions and ideas will come unstuck and will evolve.

The scientific revolution historically did not come to us because of the "scientific method." The scientific method is a way to pull weeds of error and that is good--but that did not bring us the scientific revolution. What brought us the scientific revolution was a few individuals, later to become known as great scientists, who got into the practice of making their own observations and systematically recording them.

The fastest, most direct way we know of to change the world for the better is to get many people at large into making their own firsthand observations, expressing, articulating and recording those observations. As they do so, their observations, perceptions, thoughts and ideas will come unstuck and will evolve.

How much of what goes on today could continue if many people at large were into the practice of exercising and recording and expressing their own powers of independent observation? How much of what so desperately needs doing today would be addressed if many, many people around had their own eyes with which to see? We have begun to think of this--and hope that you will come to share this sense with us--as a well-nigh "holy mission": to practice and to foster and spread the practice, of making one's own firsthand observations, articulating, expressing and recording those observations!

At this time, the apparent best, easiest, most direct way to train or develop the practice of making one's own firsthand observations, expressing, articulating and recording these observations, is the spontaneous imaging, "Image-streaming," experience we are about to share together here. (See Wenger, 1981b for instructions on how to "Image-stream".) We encourage you to examine your experience of this approach to fostering and training the powers of such independent observation, and/or to find or to create your own way to do so. We believe that few things could be more urgent or important.

The reasons why we believe "Image-streaming" to be such a valuable way to practice and build independent powers of observation are:

1. The contents of such observation are most completely yours --not the ideas, beliefs, expectations, laws, "scientific laws," or dogma of anyone else (including any baggage of mine!).
2. In pressing toward best, most reinforcive results, your describing has to be sensory detail--directly and honestly and immediately descriptive of the spontaneous perceptions you are describing--however analytic, understanding or abstract you may get with that image content after you've established it. What makes this Image-streaming most rewardingly effective for you just happens also to be what most honestly and forthrightly and freely builds your objective powers of observation whatever the context.
3. Building powers of language (through surmounting the challenge of sometimes having to describe the indescribable), intelligence and creativity--by building bridges of communication between east and west poles of your consciousness, so to speak--are bound also to make you an even more potent person

than before. This is aside from the specific visual-thinking and solution-finding skills ensuing from this Image-streaming practice. These latter skills, of course, make all of this practical by turning the contents of your Image-stream into practical, solid information and specific solutions to specific problems and questions.

4. Image-streaming therein demonstrates a direct link with the same source or kind of source as has been demonstrated by every one of those few geniuses who have made virtually every major contribution to human culture and civilization. You and Leonardo and Buckminster Fuller have this one same resource in common (Terman, 1926 and Gowan, 1975).

What has any of this notion of making firsthand observations and of the idea of expressing and articulating such perceptions into focus to do with suggestopedia or Lozanov?

Lozanov is the first great one in our time to effectively remind some of us that there are other dimensions to the learner than that of merely a passive, grossly imperfect recipient of knowledge or even an active consumer of knowledge. And that some of these other dimensions are profoundly significant in intellectual and educational regards.

The details of Lozanov's strategy may differ from the strategies we share here today and tomorrow (Wenger, 1981b), but Lozanov's first concern is with the learner and not with the information imparted to the learner. (Indeed, his system arose as a therapy and only later became a system of teaching!) Despite the general focus of attention on such matters as active and passive concert seances, pattern- and rhythm-meshing, relaxation, orchestrated subliminal suggestive cues, etc., much of his method is also strategy for inducing the learner to flow freely from unconscious knowledge, to articulate to himself the information to which the class is addressed. That aspect of similarity, of course, has been in part disguised by the need of any foreign language class to teach the art of speaking in that language.

At first blush, the present Project Renaissance approach appears to differ greatly from the suggestopedic, not only because of the specific methods but because instead of memorization, Project Renaissance orients on building understandings--intellectual and aesthetic understandings--and physically-involved skills.

Yet that one difference--better memorization in the Lozanov versus better understanding and skills in the Project Renaissance approach--is one of the most obvious things rendering these two approaches usefully complementary. Both remarkably accelerate and enrich learning, but in no way do they compete for the same ecological niche even though both are highly accelerated learning. Each strengthens the other, each reaches areas the other is not yet ready to address fully.

As we begin to explore and define differences in method, we shall find not only further complementarities but new synergies, and new perceptions upon our common role of building the learner as a meaningful, educated human being.

Tomorrow we will experience together some of the specific ways Project Renaissance uses this Principle of Articulation to build specific understandings and skills. (Note: These are scripted out as protocols in Wenger, 1981b.) to the core of the matter of the Principle of Articulation. I wish to share with you today one strategy for adding meaning and definition to human lives and our own lives through a practice of articulating to an external focus, ongoing firsthand personal observations. The form of that practice we'll do here is "Image-streaming" (Wenger, 1981b).

First, one more thought: The old version of the Socratic Method required such skill and attention of the teacher that "education" in any truly meaningful sense was only for a small, elite, favored few. Today, "education" in the fully, humanly meaningful sense can be made readily available to everyone because of new methods available today and because everyone today has or can obtain simple tape recorders as their listeners. Here and now, we have at this conference not just tape recorders, but one another as listeners. By being, in effect, each other's tape recorders, you can immediately begin to add meaning, value, definition and "education" to one another's lives.

(At the conference, the "Image-streaming" exercise followed, the same one as given in Wenger, 1981b, and demonstrated and illustrated certain key educationally-relevant principles.)

Definitions of Principles

"Image-streaming" itself we define as the act of verbally detailing that portion of larger knowledge and perception which finds reflection in one's own spontaneous or undirected mental imagery. Whatever images come, regardless of whether at first they appear to have any relevance or meaning, describe aloud to a tape recorder or to a live listener. If one does this with eyes closed, more and richer such images develop. To the extent that the content of such images surprises or is other than what one expected, these images are arising from regions of the brain and mind

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other than those he/she is used to consciously thinking and perceiving from; a way to use some of that other 99% of your brain.

> Principle of Articulation: to map and detail out one's own firsthand personal perceptions into focused consciousness, whether these perceptions are of exterior events and settings or from interior, larger knowledge and awareness.
>
> Principle of Description: to reinforce and build your perception by describing aloud to an external focus such as a tape recorder or live listener in as rich a detail as possible, what you are observing. This, of course, brings immensely more into the focus of perception.

For the reasons cited above, most of the ensuing exercises engaged these principles upon interior observations, tapping the same wellsprings of genius as cited by Plato and Socrates and as were demonstrated by Catherine Cox's three hundred geniuses and as found in every one of us and in our respective students. The session went on to propose that we turn some attention and effort to causing schools to once again become at least somewhat "educative," to return at least somewhat toward their original roles as "articulariae."

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Démonstration dans les images visuelles spontanées.

Nous sommes, nous-mêmes, "information" et prenons sens, valeur, définition jusqu'au degré que nous exprimons articulans et enregistrons à partir de nos propres observations. Comme nous le faisons, nous ne puisons pas seulement plus de connaissances que nous pensions connaitre, mais sur les mêmes racines à partir desquelles ont donné naissance toutes les contributions de la civilsation humaine et culture valant la peine d'être mentionnée. Particulièrement nous puisons sur ces origines de génie, pour un grand nombre de raisons, quand nous nous entrainons à nous exprimer, articuler et enregistrer nos observations

essentielles de notre demi-inconscient, inconscient, indirect, entrainant l'image mentale visuelle qui se produit, en ce moment précis, dans chacun de nous.

Beweisführung im spontan-visuellen Vorstellen.

Wir selbst sind "Auskunft," und wir gewinnen an Bedeutung, Wert und Deutlichkeit, insofern als wir eigene direkte Wahrnehmungen ausdrücken, artikulieren und speichern. Während wir das tun, führen wir nicht nur mehr Wissen herbei, von dem wir annahmen, daß wir es hätten, sondern auch die tiefen Wurzeln, von denen fast alle erwähnenswerten Beiträge zur meschlichen Zivilisation und Kultur entstammen. Wir ziehen aus vielen Gründen diese Quellen des genialen Menschen heran, besonders wenn wir Ausdruck, Artikulation und Speicherung unsere notwendigen Erstbeobachtungen ausüben. Diese sind Erstbeobachtungen eigener halb-unbewußter, unbewußter, ungeleiteter und fortlaufend visueller Vorstellung, die im genau diesem Moment in jedem von uns weiterläuft.

Una demostración de la creación espontanea de imágenes.

Nuestra escencia misma es "información," nosotros definimos y adjudicamos valor y sentido a las cosas de acuerdo a como expresamos, procesamos y memorizamos nuestras experiencias. Mientras lo hacemos, nos basamos en mucho más información de lo que creemos; en proceso usamos la misma información que se ha utilizado durante toda nuestra historia para los avances de la civilizatión humana. Especialmente nos hasamos en este manantial de información universal cuando expresamos, procesamos y memorizamos nuestra experiencia de nuestro semi-inconciente, inconciente y espontanea de creación de imágenes, misma que está ocurriendo en este momento dentro de nosotros.

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A Communicative Approach to Teaching Foreign Language*

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Abstract. The author discusses the background, theory and problems of the communicative approach in teaching foreign languages.

In studying the history of methods during our time, an interesting trend emerges: position changes, a turn occurs in opinions or views approximately every ten years. The ten-year audiolingual method is changed into the ten-year audiovisual. The changes in the latter are the large number of attempts to ease the memorization on the basis of controlling the condition of the teaching, such as hypnopedia, relaxopedia, suggestopedia. The last ten years have united those who practiced the intensive approach and those who worked traditionally, interested them in the new approach which has been named the communicative approach. We will try to distinguish several tendencies in systematic approaches to the term "communicative" after which point we will conclude.

Audiolingual, audiovisual and suggestopedic methods of learning foreign languages were built on structural linguistical processes, but in more depth from the method to method psychological approach with the goal of making memorization easier over a wide range of learning materials. It was discovered that an increase of interest to work increases the possibility of memorization. In search of creating and retaining interest for learning, the text was "enlivened," including on this basis, vividly memorable illustrations (audiovisual method) or recreation of vividly memorable situations (suggestopedic method).

The situation reproduced from the lessons by the picture or by improvization from the leading instructor promotes global perception and secures the material, subject comprehensibility and elementary units which turn out to be the structure or model of speech meaning. Traditional exercises before were always sentences consisting of words, the elementary unit in traditional methods; now they are replaced by structural ones. Structural linguistics very vividly yields writing by partial operation, to which structure must be subordinated to be mastered. This transforms structures by types of expansion, turnovers, prefixes, combinations. The goal of such a system is natural reactions. But if the text consists of authentic materials, what transformation of situations can be proposed? Gradually, an internal protest of educators began to form against this system of learning, where the learning by model overflows into studied models, but a natural behavior of the studied in the assigned circumstances turn out to be impossible, if they do not look over their assignments as a simple review in learning tracts with numerous stages.

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Everything that occurs in the majority of instances does not leave the boundaries of its service. But when those approaches began to spread into a more lasting learning with other values, it was discovered that the structural-behavioral approach was able to solve a very particular narrow problem: to teach correct speech behavior in a narrowly defined sphere of communication. Teaching communication in language, teaching speech activities in a foreign language by this path is not successful.

We begin a search for new approaches to this problem. First of all, criticism falls on the primitiveness of the situation, into which the materials studied are placed following this or the other course. Later it is noted that the role change in the stage performance from the learning course brings to power structures and models belonging to different styles of speech. Replicas absolutely correct in the studied situations, during the transition into a new situation of communication, become correct. Here the laws of social roles appear in full force. Of course, each of us in life plays a countless number of roles: husband/wife, father/mother, child/parent, etc. But a cultured person, in his relationship with his surrounding, preserves his identity, independently of the situation of his partner in society. In this sense, necessity in short-term learning leans on the main role learned in life. The educational textbook should be sustained in strict language style presenting this or that professional circle, not falling into a familiar, popular speech or official style.

And so the criticism of existing situations, language related to different stylistic layers, the impossibility of entering into a full valued communication, against a background of such criticism addressing the existing methods, new approaches are born; those that relate the aspiration to teach language as central communication.

What does lingual communication offer? What laws does it follow? What is the role of communications? It is obvious that communication presents itself as a pseudopersonal activity, where the motives of the activity in whole and every separately taken speech act must be found in the extralinguistical sphere, even if we have to deal with the analysis of the lingual product of this activity. At the lowest level of communication we can get by with formulas of prepared example: automatic reactions pass by unconsciously while everything goes on by a smooth pattern. It is becoming more clear that to teach a language as a center of communication, means to teach a person to express his thoughts in the learned language. The very placement of the assignment makes the advancement absurd on the first plane of automatic reaction to the speech stimulus. One can answer without thinking: "Don't mention it" in answer to "Thank you." "Certainly" in reply to "Excuse me." But a "yes" or "no" answer to the question "Do you like Brahms?" will quickly generate a reluctance to continue the conversation.

Scholars argue about the degree of independence of speech activity, even though it is clear to everyone that the same syntactic construction can signify just a physical action or the beginning of a conversation on the proposed theme, where in the inner area of a discourse, interesting things come to light, the motives behind relations between communicators.

A project has been worked on under the control of the European Congress since 1971. Its purpose is to work out a system of teaching living languages on the basis of units, presenting a value for partners in communication. In 1975, the first teaching course of the English language built on the new principles appeared. In 1981, the appearance of a course of the French language was awaited, which was preceded by a bulky inventory of teaching units sorted by the author's group on the basis of the analysis of speech acts, fixed in an authentic conversation of possessors of the language. In the French variant, the understandable grammar of the new type is also given. The inventory of the speech acts, accepting them as unavoidable on the first level of communicative competency, creates a central link explaining the new system. The authors believed that to compose in this way, the inventor of speech acts and their more common usages of realization in the French language is significantly able to take a risk of unwanted automation of the instrument of communication, but it seems interesting and valuable that in the world of the accepted communicative approach, to work out an understandable grammar which explains the relationship to the surrounding and its world perception. The new and also cumbersome system of the explanation of grammatical mechanisms of language takes up almost 650 pages of preparatory material.

According to S. Mauron, "The repertoire of isolated speech acts is evidently not enough for bringing about a communicative programming where the success should be based on the fundamental importance of socio-linguistic macro- and micro-unit communication."

In today's methodical literature, an understanding of the communicative approach is included within the same realm: "the situation of communication," "communicative competence," "communicative approach," "act of communication," "the fact of communication," and so forth.

The use of understanding "situations" was most fruitful. Here every author can get away from the proper way of teaching and pick situations which are more interesting, intelligent, typical and authentic. An example is the text written for adults by Annie Monere. The author aims to focus the attention on problems in contemporary France.

There is yet another interesting direction that is known to us from VELS. Here the major indication of communicative approach shows a creative beginning which should be developed in the process of mastering a foreign language. The learners are exposed to active work from day one, requiring them to solve thought problems, problem situations, problems incurred from discussions, but the freedom of creativity covers up the problem which always stands before the instructor.

In Soviet studies, the communicative approach is being watched. If the basic function of a language is to accept its communicative function: "The communicative purpose of a language is first and only its function of transformation of individual consciousness for society." So the main content of communication is the exchange of ideas, the externalization of the inner world of man to produce contacts and understandings, to provide a platform on which the relationship with the world is built on. This language that appears as an instrument is not given to man in a "ready fashion." It is learned from the language around him with a gradual broadening of its boundaries.

If the foreign language studied cannot bypass the native language, then what is the role of the native language? The structural behavioral approach aims to displace the native language, the source of interference and error. L. Blumfeld formulated his own credo: "The foreign language is learned by memorization and more memorization; everything else is worthless. If you want to learn the language, don't think, don't ask the question 'Why?' Imitate the people who do speak the language."

The communicative approach to teaching foreign languages in our view means accepting and following the language, the narrative-meaning functions of communication from which emerges the necessity of answering the questions about the role of the studied native language. What do we do with it? Practice has shown that any civilized country does not use texts produced by the country whose language is being studied, but produces its own texts.

It is understood that during learning, it is not worth asking why we speak like this and not differently. We learn to speak as it is accepted by the language studied. We learn to imitate it. Following teaching the language as the center of communication, we are required to give a person a way of self-expression and to form his meaning so as to be understood, not just attract attention. It is here that method problems arise. To learn a language means to first learn a huge number of good examples and then try to create something of your own in the language. The classical text followed such a line. The question that follows is about how and what is "good language."

How is a diversity of speakers in the majority of works constructed, dedicated to the systematic realization of the principle of communicative approach abroad? Are neutral variants sorted or even marked in some way to distinguish them from familiar variants? No. Because a single structural test is considered, the test of the possessors of the language who, without any difficulty, intuitively feel the stylistic boundaries inside the synonymous lines.

In contrast to all the earlier known, approaching the communicative approach has a systematic character; the new communicative linguistics sees the elementary unit of analysis of language-utterances as giving a decisive role in language semantics that is informativeness or communication; the content of the utterance, from which logical situation utterances emerge, its organic relation with a general plan, with a context which assigns an upper boundary of a microsystem, open in principle but having three constituents, without which concreteness would fall apart and learning would be impossible. This triad is the nucleus of the system: utterance, situation, cultural context.

The communicative approach to learning in the world of communicative linguistics signifies first of all an overview of positions in the plane of assignment of elementary units of learning. In traditional learning, the unit was the "word" in a sentence. If the structure-behavioral approach enlarged the unit of learning to model/structure/ready speech example, then communicative linguistics considers the elementary unit of an utterance the circumspection which emerges in a particular situation of communication.

The utterance consists of words, but it belongs to micro- and macro-contexts.

If in the structure/model, two components are placed (speaking competence and listening competence), then the utterance of communicative linguistics sees a four-characteristic system: intensity/presupposition speech competence/ listener competence/ extralinguistic exit.

During the sorting of learning material for learning to speak, in our view, an intelligent pedagogical route from easy to difficult should lie across the coinciding of the two language systems and methods of formalization of utterances in their parting.

Communicative linguistics says: Learning should be built on the basis of a specialized text. The idea of textual variant of allowance should be created for concrete conditions of learning like a connecting text with a permanent basic personage, speech behavior which is accepted as a standard, but the situations in which they function must model the future activities of learners. The personages should not all be speakers of the foreign language or conversely representatives of the country where the language is taught. It is important to include all who present different views of the world, on which different points of views to various questions are based. It is here that the individual and social are concentrated. Here is the key to learning communication as a process of establishing an understanding of both viewpoints. In Soviet psychology, the idea of the necessity of learning foreign languages as communications in collective activities including personal-impersonal connections of a teacher-group, teacher-student, student-group, student-student, etc. We see that communication is a complex activity with its own set of laws, rules and definitions.

The traditional teaching of foreign languages has long ignored these problems. The unit of teaching was considered to be the word, but the analysis of sentences followed the form. Teaching strived to teach some universal language. Intensive methods of the 50-70s tackled the first barrier of difficulty and demonstrated the possibility of teaching correct speech usage in daily situations at the highest communication (level 1) in a period of 1-3 months of study. During this, the elementary layer of conversational language is laid, which is necessary for anyone who wants a command of the language. Within the last ten years, attempts have been made to master the second level of teaching, the level of true communication as an exchange of personal and social values. New problems arose. As it appears to us, the danger of excessive enthusiasm for the psychological aspect of the communicative process is detrimental to linguistics. Instead of standard situations with standard replicas in texts, we should also teach so that one could answer all nuances of speaking, learning and the art of expression.

It is in this way that we view the communicative approach to the teaching of foreign languages as a collection of complicated problems, the central problem belonging to the new type of text formed by the new type of instructor and including the learner in the active process of teaching with the first steps of teaching.

The problem of the text is solved by three main points: Uniting the means and methods of formation and formalization of concepts of utterances, teaching the structured utterance depending on the intention, plan and means and development and ordering of adequate situations.

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Une approche communicative dans l'enseignement de langues étrangéres.
L'auteur traite le fond, la théorie et les problémes de l'approche communicative dans l'enseignement de langues étrangères.

Eine auf Kommunikation basierende Methode des Fremdsprachenunterrichts.
Der Autor bespricht den Hintergrund, die Theorie und die Probleme von der auf Kommunikation basierenden Methode im Fremdsprachenunterricht.

El método de comunicación para la enseñanza de un idioma extranjero.
El autor discute los antecedentes, la teoría, y los problemas del método de comunicación para la enseñanza de idiomas extranjeros.

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Psychological Mechanisms of Speech and the Registration of Peculiarities: Their Function During the Teaching of Foreign Languages*

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Abstract. This article considers and discusses three levels of speech mechanisms especially as they are developed with accelerative methods: motivation, orientation, attention.

An intensive course of teaching a foreign language proposes not only a temporary but also a permanent intensive educational process. In other words, an intensive course in the plan of instruction, for example, speaking another language, intensifies the command of ways and means of formation and formulation of thoughts and ideas in the foreign language. This is carried out through: a) a great diversity and maximum use of learning methods, b) accurate and rational organization of teaching material learned by adults (including all the psychological processes such as perception, thought and memory), and c) the optimum registration of individual and socio-psychological exceptional events of adult audiences. However, to this day, the possibilities of the intensive learning process are not yet fully used.

In the last ten years, metaphorical understandings of "mechanisms" are more widely used. In conjunction with the "mechanism of the brain," "mechanism of speech, "mechanism of whole thinking," "mechanism of emotion," etc., have become more commonly used.

Rarely is any of these mechanisms presented even in part as the mechanism of speech activities in a complex hierarchial system. While examining this question, we will assume that the activity has an internal and external structure (S.P. Rubenstein, A.N. Leontiev) and that the inner side of the activity is that of a "psychological mode," formed by the perceptual-cognitive-opinion activity of a person who does the planning and function. In agreement with S.P. Rubenstein, "The activity of man causes the formation of his consciousness, his psychological ties, processes and connections; the last few carry out the regulation of person's activities, appearing as its adequate fulfillment." In other words, "activity is that system inside which the psyche functions."

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The activity approach to speech behavior in general and to speech includes four similar situations. Firstly, speech mechanisms correlate with three concept activities (CA), that is, there can be singled out mechanisms of motivational-stimulating, guided-experimental and completed phase (CA).

Secondly, the orientational-experimental phase of speech activity appears as a general functional mechanism.

Thirdly, the mechanisms of concept activity in the native and foreign language are the same, differing in the second case with the level of functionalization, the level of "adaptation" to the operationalization of the ways and means of formation, and formulation of concepts and peculiarities of organization of articulational-intonational programs. This concept was stressed by the researcher of brain mechanisms, W. Penfield.

Fourthly, all aspects of CA have a general and distinguishing characteristic for each level of the concept mechanism. This means that in the process of teaching foreign language, the mastery of one aspect of CA eases the mastery of the others. Under the conditions of intensive teaching, conceptual mechanisms for all aspects of CA by the affirmative community introduces the possibility of the intensification of teaching through the formation of these mechanisms, even if it is only on the level of one aspect of CA, for example, speech.

Next we will examine the general scheme of speech mechanisms as an aspect of concept activity and note the possible paths of peculiar mechanisms of unilingual speech in the conditions of intensive teaching.

Psychological mechanism problems of the concept were studied by N.I. Zhinkin affirming the two-sidedness and the completeness of all the conceptual mechanisms; Zhinkin includes in their number a large number of sufficiently heterogeneous processes and phenomena. They can all be represented in a hierarchy. In this hierarchy, the general mechanisms of "receiving and giving" are placed.

Inside these two links of communication, according to Zhinkin, enter these mechanisms: 1) comprehension, in unity with two complementary links - analysis and synthesis; 2) memory, in unity with two complementary links -

long-term (permanent) and short-term (operative) memory; and 3) efficient synthesis, appearing in connection with two elementary links of any aspect of the conceptual chain. Zhinkin also shows that currently a large circle of primary psychological mechanisms are defined and many are very complex.

In practice, the teaching of foreign languages with an oral mechanism is formulated in the native language; it does not function on that level for conditions of mastering unilingual conceptual activity. At the beginning in studying a foreign language, a person as a rule retains in his memory a smaller number of unilingual words than words of the native language, understands the unilingual communication slower and less clearly expresses the mechanism of efficient synthesis in the control of the new unilingual activity. This means that the speaker somehow forms the noted links and levels of this complex and multisided oral mechanism.

Underlining the concept, that all speech mechanisms function as united wholes, we will also note that specific levels may be expressed, and the beginning and ending moments realized by this mechanism of speech. The first level correlates with motivational-incentive phase of activity. The second is the orientation-investigational or analytical-syntactical phase of activity. The third realizes the attentive phase of activity, expressed in articulatory action and acoustic effects.

Considering the complex appearance of motivation and the importance of this factor for speech, teaching this view of oral activity in the foreign language should begin namely with the inclusion motive of speech. Without an internal motive in learning to speak, it is not effective. The student's willingness to learn the foreign language determines the degree of success.

As A.N. Leontiev, A.A. Smirnow, et al. note, a person with a satisfactory motive in social activities memorizes more productively, studies the material in more depth and his interest performs the very activity. Therefore, we can say that in wide use intensive teaching of foreign language are methods of organization of role teaching, game situations, puzzle solution, etc.

It is also important to note that during correct organization of internal motives of speech in the foreign language, the teaching of the view CA becomes personally important and personally oriented. The center of teaching in this case is the person and his inner world of necessities and emotions, concepts and relations, personal and professional.

Looking over the mechanism of motivation, we will briefly characterize three primary plane of displaying speech mechanisms, which are based on the action of generally functional mechanisms of memory, predicting and conceptualization. The first two are: the mechanism of logical plane of an utterance and the mechanism of formation and formulation of concepts, that is lexico-grammatical We call these two planes the mechanisms of inner formulation of utterances. The third plane is the mechanism of background formulation of utterances or mechanism of external formulation.

We will look at how these three planes of independent speech mechanism appear in the process of mastering speech in a foreign language.

The action of the mechanisms of the logical plane can be included in the speaking of foreign languages. Here we can speak about the full carryover of functionalization of these mechanisms from the native to foreign language. So, if a student can stress the important aspects and subordinate the details in the conceptual construction in the native language, then this 'know-how' is realized in the foreign language. If the student is taught this in the foreign language then we can observe an improvement of this "know-how" not only in the foreign language, but also in the native language (experimentation by L.I. Apatova, A.G. Volchkova), that is not only pro-active, but also retroactive transference.

The mechanisms of formation, especially formulation of concepts, is internal formulation of utterances in operations like selection, comparison, composition, combination, structuralization and others of individual words. The second plane of appearance of the general mechanism, speech, applies to the conditions of operation of new ways and means of formation and formulation of concepts. The value of functionalization of these mechanisms in activities of speech in the foreign language achieves as a result, a special direction for working these operations or exercises, for example, questions of the type: "Who is larger? Who can name seven objects found in the household?" and so forth.

The third plane of oral mechanism is background mechanisms or mechanisms for external formulation of utterances. They can be correlated with motor mechanisms of speech, according to W. Penfield. So, if the first plane of the oral mechanism, the plan of logical formulation is "turned off" in speech in the foreign language, but the second plane of mechanisms "applies", then mechanisms in the external background formulation of unilingual utterances function by programs different from the native language, and furthermore are specially formed. Almost all levels of action of background mechanisms require special developmental exercises, for example, breathing, rhythm, articulation, etc.

Practicing intensive teaching of foreign languages shows that in a plan of work, the very oral mechanisms in the beginning stage most of the time are assigned mainly to the development of mechanisms of external formulation. Developing the two other planes (levels) of the same oral mechanism, especially the general functional mechanisms of memory, conceptualization, verbal prognosis does not, as a rule, lead to full value teaching.

We an see the full value of the formation of general functional mechanisms and first of all, the mechanisms of conceptualization (or the correction of its functionalization) beginning in the native and then in the foreign language, namely in the conditions of accelerated teaching.

The direction of formation mechanisms for internal formulation appears important and special not only in the activation of lexical and grammatical knowledge realized in teaching, but also during development of internal operations of selecting lingual means and their combinations: a) by quickness, b) by correctness, and c) by ease, and so forth.

In conclusion, only a general investigation of the planes of general speech mechanisms, the relation of special oral and general functional mechanisms and the relation between all levels of speech mechanisms with three phases of oral activities of speech as they relate to foreign languages was made. Further study is a necessity.

* * *

Mécanismes psychologiques de la parole et l'enregistrement des particularités: Leur fonction durant l'enseignement de langues étrangères.

Cet article considère et traite trois niveaux des mécanismes de la parole et plus particulièrement comment ils sont développés avec les méthodes accélérées: motivation, orientation, attention.

Psychologische Mechanismen beim Sprechen und die Registrierung von Besonderheiten: Ihre Tätigkeit während des Fremdsprachenunterrichts.

Dieser Artikel berücksichtigt und behandelt drei Ebenen der Sprechmechanismen, insofern sie mit beschleunigenden Methoden entwickelt sind: Motivierung, Orientierung und Aufmerksamkeit.

Descripción de los mecanismos psicológicos y del lenguaje en la memorización de detalles particulares: Su función dentro de la enseñanza de idiomas extranjeros.

El autor describe tres niveles de mecanismos del languaje enfocándose en cómo éstos se desarrollan con métodos acelerativos; estos tres niveles son: motivación, orientación y atención.

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Questions About the Teaching of Foreign Languages in the Communicative Perspective Aspect*

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Abstract. This article is a discussion of current Soviet concerns in teaching foreign languages, focusing on communicative aspects from the simple sentence to its context semantically.

Since the early 1960s, in the method of teaching foreign languages, certain techniques prevail, appearing as an offspring of linguistic structuralism and behavioral psychology. Also, shortcomings in structural linguistics soon appeared everywhere, not only on the theoretical level but in the practical sphere, firstly in the teaching of foreign languages.

Structural linguistics, imitating the role of an adequate theory of language, demonstrated a greatly argued interpretation of language, like some system existing independently and functionally in connection with its laws. This viewpoint was stated by N. Chomsky; a language mechanism at a particular level autonomous from man. Semantics, like spiritual fulfillment of language, turned out to be omitted from linguistic observation. The damage of this viewpoint is obvious, in that it is one way the semantically dead language cannot be accepted as a language. Because of this, Chomsky turned to R. DeCartes and added to language a creative possibility which likewise did not save the situation. The result could not reach the level of knowledge of 18th century; Chomsky's theory included values from the leading theories.

The linguistics of the last ten years have made marks on the written theory of language. The possibilities of written language knowledge are not great; presently they are used only in practice in the studies of the less-examined languages.

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Psycholinguistics and sociolinguistics likewise have not presented an adequate language theory. Overlooking the fact that psycholinguistics strived to show language as an instrument of mental activity, it turned out to be untouched in essence. As a result, psycholinguistics has changed its objective now, dispersed in a very wide range from the pure lingual approach to utilization, for example, the problem of comfort of the type or print, etc. What is important is that sociolinguistics, in our country, has returned to culturally historical explanation of the development of languages, but in America, linguistics has merged with elementary sociolinguistic examinations.

In the structural approach to language, a new linguistic theory has arisen based on the functional concept of language. Presently a great number of scholars say that the object examined should be the functionalization of a language in society and not within the linguistic analysis. For example, in linguistics there are many types of sentences, for as it turned out, the functionalization of these models do not coincide with the grammatical. The representatives of the Prague linguistic school could not explain the division of a sentence into "theme" and "scheme."

The point is that the constructions used in writing appear not as language but as its model, because by its functions a language is not a sum of separate parts.

The language model of G. Glintz and D. Wunderlich expresses the communicative value of a sentence. The communicative level appears to be the very essence of language, and so the communication of a sentence is accepted not as a model but as a means with help of some partners in communicative acts exchanging information. A language should be examined in dynamic contact.

Taxonomical linguistics examines the phonemes, by initial units, morphemes, words, sentences, sentence consisting of all elements, significant and insignificant, from nominative, full-valued to syntactical, functional articles.

The communicative approach allows us to avoid dealing with certain traditional units when they do not directly participate in communication.

As known, the basic value of human activity appears as knowledge of objective reality. Likewise, knowledge only then becomes knowledge when it exposes some kind of conformity with a law or regularity; without this knowledge of conformity, there is no knowledge of reality. This kind of knowledge is expressed in linguo-logical form. In this manner, the principle unit appears to be primarily the expression (utterance) and not the word, the word combination or the sentence.

An utterance cannot be isolated by its character. It can appear only in the resulting process of exchanging information. Therefore, the communicating unit in principle appears not as the sentence, but the utterance in connection with other utterances (text that join two partners in communication, independent of whether it is in oral or written form.

In the communicative aspect, the study of language units talks not of meaning, for example, words or sentences formed on principally one object of communication. The meaning of the text determines the value of individual language units. Components from which the text is constructed are elementary and possess a main idea and a meaning. In this way, the meaning is the component of the main idea. This is why the language unit cannot be the communicative unit.

So, in a dictionary, not the full meaning of the word is given, but only a part of its significant meaning as divided into parts from some reality or communication, and it is better defined through context. This circumstance explains the hardships associated with the divided meaning of words. One must understand the very mechanism of a language.

The utterance presents itself as a primary communicative unit because it unites the grammatical, literal and pragmatic principles acquired in a related synonymous meaning in any excerpt of communication. Synonymity of an utterance is put together in relation with this in the sphere of lingually competent communicants, including the meaning of all pragmatic and contextual clauses.

For this reason, the analysis of the utterance should be purely grammatical. We shall stress that the success of the utterance is related to the "single-meaning" synonymity of its meaning, lacking shall we say, a two-sided nature; like the meaning, placed at the moment of the formation of the utterance, and like the meaning, adequately recognized at the moment of its perception.

Likewise, we can limit the understanding of "single-meaning" utterances by using some single aspect, let's say grammatical correctness or only reaction of the listener, and so forth. We can see that such a grammatical correctness can form phrases of the abracadabra type and conversely, can form some meaningful cores, perceived as the addresses through the wrong grammatical forms of its organization. But even in such instances when the single separate sides of utterances are followed (i.e., propositional and grammatical forms), its single-meaning in the communicative plan cannot be complete, but must be globally related in a given instance not just to the primary, communicative unit, but also to the relatively completed communicative act. The unit of the communicative act will not be the separate utterance but the text.

Every utterance, no matter how correct and primarily synonymous it was, really turns out to be a primary communicative unit. The text achieves the status of a full-fledged communicative act.

Communicative linguists not only remove the limit of a sentence as a structural unit of language in the process of verbal association, but draw it to a place where the utterance is a broader, more universal, grammatically meaningful category like an element of realistic verbal acts, texts.

The meaning of a word enters the language web so deeply that in practice it can only be learned in the native language, when the student has the whole bundle of intersectional meanings. If the value of learning appears as the prepared meaning, then during this kind of setup the participants can learn two or three meanings, but the whole composite of meanings in the whole slips away. In this, a difference appears between the command of the native and foreign language.

Greater than this, the text as an initial unit of communication should be learned to the point that all aspects included in our paper could be analyzed. The text should be studied not only from the side of substance but in part as an influence on the communicant, that is, the intensiveness and realization of the text should be learned. All existing factors related to the process of teaching two people, from articulation to text work to the results of relating the communication, must be included in studying the text. This is why the text is the most important and integral and it is difficult to frame it into one theory.

Linguistics has been unable to grasp all aspects of the text. The most complex problem remaining is studying the internal organization of a text as a unit of language. This problem has been studied by many syntaxists and its study has progressed independently of communicative linguistics on an empirical method. The results of numerous studies are several mechanisms of the internal organization of the text but on the level of the entire text. The existing boundary of communication appears to be the supporting side (the exchange of principles with ideas) and that the existing organization of the text must be meaningful.

Also during the transition to the text level, we see beyond the framework of language knowledge to other areas such as logic, psychology, semiotics.

How and what will pass from linguistics to didactics? Linguistics can be used in teaching foreign languages. For example, in linguistic words, the division of texts into dialogues and monologues is proposed. These concepts have been long used in methodology. We are especially interested in how dialogical textual units present themselves. Getting away from the contemporary understanding of the process of communication, we must separate dialogical texts by typical situations in which blocks of language serve their communicative function. The adequacy of a typified situation and the adequacy of the block create a full mutual understanding, that is, a complete communication because in this block, there is a bundle of intersections of semantic ties. In this way, the association in the text's view of any length creates a real and undistorted meaning. In this case, the participant cannot use a word in a phrase which does not fit the text.

We will turn to one more problem: the problem of norm, which in general language know-how, has been studied conformably to literary language and its opposition to dialectics in connection with the learned professional languages and so forth. Attention is paid to the circumstance that in communication norms are very mobile, especially if we take into account the intensity of modifications in our time. It is difficult to deal with this question.

In a theoretical plan, solving the problem of norm without argument appears to belong to linguistics. Also this problem brings along an important practical value during teaching foreign language. It is necessary to know to what norm can we allow errors, on what level of the text, or only in the pronunciation, or in existence with an accent, etc. At the same time, a question arises from our institute and many others about the level of clarity of pronunciation and idiomaticity of speech products.

* * *

Questions au sujet de l'enseignmement des langues étrangéres dans l'orientation de la perspective communicative.

Cet article est une discussion des intérêts actuels des Soviets dans l'enseignement des langues étrangères, plus particulièrement sur les aspects communicatifs à partir de phrases simples jusqu'à son contexte sémantique.

Fragen über den Fremdsprachenunterricht vom kommunikativen, perspektivischen Standpunkt.

Dieser Artikel behandelt aktuelle sowjetische Interessen im Fremdsprachenunterricht, die sich auf kommunikative Aspekte im einfachen Satz bis zum semantischen Kontext konzentrieren.

Preguntas sobre la enseñanza de idiomas extranjeros enfocada al aspecto comunictivo.

Este artículo presenta una discución sobre las dudas de los soviéticos de enseñar idiomas extranjeros de una manera que se enfoca en el aspecto comunicativo del idioma; llendo de una oración simple hasta su contenido semántico.

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BOOK REVIEW

The Intuitive Approach to Reading and Learning Disabilities: A Practical Alternative
by Dean F. Held

Springfield IL: Charles C. Thomas, 1984
Tables, Puppetry Appendix, Bibliography,
Index, 156 pp.

Reviewed by Lyelle L. Palmer

This book is an extended treatment of theory and application of Suggestive-Accelerative Learning and Teaching (SALT) or Lozanov Suggestopedia techniques for students with special school needs. The author is a professor of education at the University of Wisconsin-Superior, whose doctoral dissertation examined the effects of these accelerated learning and teaching methods on learning disabled students. He has since had many opportunities to use the procedures with students. This book, therefore, details the author's current understanding of the principles of the approach, and reviews applications with children.

The early chapters introduce the reader to the components of the suggestopedic approach with treatments of topics including anti-suggestive barriers, authority, infantilization, double planeness, intonation, rhythm and pseudopassivity. A lesson is described as an "Intuitive Teaching Session" with several phases: review, active presentation, pseudopassive and psychodrama. A preparation phase precedes the session in which the teacher deliberately improves the learning atmosphere through relaxation, specific positive statements, for example, "Books are fun to read", and the development of positive self-concept and attitudes. Held calls this preparation the establishing of a conscious/subconscious rapport in the student, and the emphasis on this affective preparation is what distinguishes the "intuitive" approach from the current "Remedial" approach. This new approach, therefore, is a major break with current school practice in remedial and special education, with implications for all aspects of interaction with students (including assessment, instruction and homework).

The active phase of instruction is considered to be an intuitive learning activity. Two lesson examples are given with teacher script statements. The passive session section contains examples of lessons with Early Pleasant Learning Recall and attention to the three different voice planes of teacher intonation. These phases can be adapted for teaching remedial or simplified sessions.

The best part of the book, for those with some acquaintance with either special education or SALT, begins on page 59 with a richly anecdotal case study. The case of Hans concerns 25 lessons with a reluctant and resistive third-grader over a five-month period. The realities of the therapeutic education effort are handled with fetching literary style by Held, as in this passage where he relates the mother's comments to him on the day following the first session:

> "Well, he thinks it's all dumb and that you are a little weird. He is really enthused, but also very frightened. He will be there Tuesday for sure." Well, Hans did come back, but let me assure you his concept, my concept and his mother's concept of enthusiasm are certainly thousands of miles apart. Hans was furious at his mother for making him come.

The many specific procedures based on Suggestive-Accelerative Learning and Teaching principles used during the lessons are presented as models for other teachers. Imagery, for example, included mountain climbing, bike riding, fantasy trip, moonflight and other pleasant and successful experiences. Relaxation training, breathing, mind calming, learning expectations, physical exercises, psychodrama, word contour study and writing personal stories were combined with slow baroque music for maximum effect. By lesson twelve, this total non-reader was requesting a trip to the library.

Held supplies the reader with extensive tables of diagnostic and remedial activities, including materials and curriculum. Imagery and language experience lessons in the SALT format are listed in a large table, and puppetry and psychodrama have an entire chapter devoted to them.

A research review chapter includes results from Held's dissertation study, as well as other authors from the research literature. A further case study of a repeating first-grader shows the student progressing from being a non-reader to fluent second-grade reading in three months. Held is adamantly opposed to formal assessment, asserting that pupils have previously been negatively conditioned to assessment and that requiring the student to endure the torture of testing is antithetical to SALT objectives. Therefore, formal pre- and posttests were not conducted on these cases. Instead, Held suggests that all of the necessary assessment can be accomplished informally by a caring practitioner and that highly motivated involvement is attained more efficiently without the negative effects of a handicapped label (learning disabled, retarded reader, remedial reader). "The Enrichment Workshop," is the term Held uses for his class, and his results are impressive. Held maintains that the SALT procedures constitute a "human approach" which incorporates the SuperLearning technology into lessons for special-needs students. Considered in the context of the learning disabilities literature, this book should occupy special prominence as an alternative to the traditions of the field. It is a practical book, loaded with specific information for teachers, and it is also a provocative book in its challenge to current standard practices and philosophy in special services and special education.

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